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The Young Librarians Association [YLA] was founded in the year 2008. It was registered under the MP Society Registration Act 1973 in 23rd March 2010. Aim and objective to contribute to the professional and career development of all library personnel by conducting workshops and arranging programs. It also engage in library science education and the improvement in the training of libraries across India. To encourage and advocate for the interests of professionals and the all libraries and improvement in the status and conditions of services of librarians and promote the study, research, and dissemination of information relevant to Indian librarianship. Promotion of bibliographical study and research in library science. To foster cooperation and communication among the members of YLA, the Library community, other library organizations, and other associations. To support and protect intellectual freedom in the libraries. Affiliation of the State and other library association with Young Librarian Association and co-operation with International Organisation with same objectives. To acknowledge and honor the achievements of library personnel. Promotion of library movement and Improvement in library services in all its aspects in India. Publication of bulletins periodicals, books, etc. which will tend to the realization of the objectives of the Association. Establishment of libraries, documentation and information centres and assistance in their establishment and working promotion of appropriate library legislation in India. Promotion as well as formulation of standards, norms, guidelines, etc. for management of library and information systems and services; and carrying out all such other things those is incidental or conducive to the attainment of the above mentioned objectives.

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Contents

Bibliotherapy: New horizon for self development

Mrs. Rajeshree Kalyankar*

Abstract

Literature is a therapeutic tool for facilitating emotional growth and healing. To increase familiarity with bibliotherapy the following information is reviewed: a background of literature's therapeutic use; the stages of involvement, identification, catharsis, insight and universalism; suggestions for effectively selecting and sharing stories and strategies for creating a positive and productive learning experience. A list of children's books is provided to support counseling interventions.

Keywords – Bibliotherapy, Library and information science, Literature, Bibliotherapy benefits, Bibliotherapist

Introduction :

Bibliotherapy generally refers to the use of literature to help people to cope up with emotional problem, mental illness or change in their lives or to produce effective changes and promote personality development by providing literature relevant to their personal situation and developmental needs at appropriate times.

The ancient Greeks were the first to recognize that the people could use the books as potential therapeutic tools. The inscription over the library at 'Thebesbore' the inscription. "The healing place of the soul". In the twentieth century, this concept of using books for healing, currently termed "Bibliotherapy", undergone significant development.

Meaning of Bibliotherapy :

The term bibliotherapy is derived from the Greek : biblion, book + oepatted, healing or treatment. Bibliotherapy is the use of books and related materials in the treatment of the sick. It is a program of selected activity involving reading which is planned, conducted and controlled as treatment, under the guidance, of a expert for emotional and other problems. Bibliotherapy is a mode of communication. Books and related materials are media used to assist is establishing a means of communication, and is reinforcing the therapeutic climate of acceptance.

Definition of Bibliotherapy :

In Harrod's Librarian's glossary bibliotherapy is defined as -

A. Bibliotherapy

"The use of selected reading and related materials for therapeutic purposes in physical medicine and in mental health. As an aspect of hospital and institution librarianship. It requires an acquaintance with a wide range of literature and a knowledge of the techniques of group leadership and individual guidance".

B. Bibliotherapist

"A person skilled in bibliotherapy and reference work."

The ancient Greeks were the first to recognize that people could use books as potential therapeutic tools. A basic definition of the term bibliotherapy can be derived from its etymology. Bibliotherapy is a combination of two Greek words, biblion meaning book and therapeia meaning healing. In semantic terms, bibliotherapy means, "healing through books". Although the concept of using books to help people can be traced back to Ancient Greeks such as Aristotle, the word "bibliotherapy" first appeared in 1916. Essayist Samuel Crothers created the term bibliotherapy to describe a technique of prescribing books to patients who need help understanding their problems"

Bibliotherapy term originally used in clinical branch. Benjamin Rush was the first known American physician to prescribe books so as to provide entertainment and instruction to soldiers. Expecially after world war II, because the soldiers had a lot of time on their hands while recuperating. Also, the soldiers felt that reading was healing and helpful. In psychiatric

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institutions bebliotherapeutic groups flourished during this time. The books kept the patient busy and they seemed to be good for their general sese of well being for a variety of reasons. The most significant contribution of bibliotherapy is supporting and reinforcing individual and group counseling. The important aspects in its application are analyzing the reader's needs and supplying reading materials to fit those needs; this includes guidance in book selection leading to an involvement of the reader in the situations the book present to him. The art of bibliotherapy is the guidance to an emotional involvement through which an awareness of self and identity is strengthened, thereby leading to motivation and acceptance. And the effective application of bibliotherapy depends on the therapist's (librarian, physician or other) Sensitivity and skill in gauging the reader's need at various stages of treatment and in supplying the right reading which will meet the need, the emotional content of the book is the determining factor in the selection of material at this time.

Nature of Bibliotherapy

Generally, activities in bibliotherapy are designed to :
1 Provide information
2 Provide insight
3 Stimulate discussion about problems
4 Communicate new values and attitudes
5 Create awareness that other people have similar problems
6 Provide realistic solutions to problems

There are four different stages in application of bibliotherapy they are as follows-

(A) Identification
(B) Catharsis
(C) Insight
(D) Universalization.

A) Identification stage

In this stage the children identifies a character in a book and realize the similarities between the character and themselves. This helps the children feel a connection with the character

B) Catharsis stage

In this stage involves an emotion. Readers realize that they are not alone in facing their own problems. They may learn vicariously through those they identify within the book.

C) Insight stage

In this stage bibliotherapy allows a child to use displacement. This added distance allows the child to let down walls of defensiveness and be more open to insight and growth that would probably not occur.

D) Universalization stage

In this stage of Universalization children recognize that they are not alone in their trials and that others are experiencing similar situations. This gives the reader a sense of hope, unity, and normality.

Following are the Advantages through bibliotherapy :
1 To develop an individual's self – concept
2 To increase an individual's understanding of human behaviour or motivations
3 To foster an individual's honest self-appraisal
4 To provide a way for a person to find interests outside of self
5 To relieve emotional or mental pressure
6 To show an individual that he or she is not the first or only person to encounter such a problem
7 To show an individual that there is more than one solution to a problem
8 To help a person discuss a problem more freely
9 To help an individual plan a constructive course of action to solve a problem

Bibliotherapy Benefits

Affective benefits
– Self-esteem and Self-confidence
– Cathartic release
– Psychological relief
– Realize they are not alone
– Helps students with exceptional needs or those dealing with painful issues, deal with their problems in an effective, realistic, and sensitive manner.

Cognitive Benefits

– Increase literacy skills.
– Critical thinking (analysis, drawing conclusions, decision-making, and problem solving).
– A vehicle for discussion of sensitive issues in non-threatening manner.

– Self-understanding, coping, conflict resolution, and self-evaluations skills

Bibliotherapy may be limited by:

1. The therapist's skill in directing the process through all the steps, especially the follow-up
2. The degree and nature of the individual's problem
3. The availability of quality materials
4. The manner in which the book is presented to the individual.
5. The tendency of some students to rationalize away problems when reading about them
6. The student's and bibliotherapist realization of the limitations of the process, i.e., that problems cannot be fully resolved by merely reading about them.
7. The ability of the individual to transfer his insight to real life
8. The tendency of some individual to use literature as an escape, causing increasing withdrawal into a world of fantasy
9. The interrelationship between the reader and the bibliotherapist
10. The availability of courses and training programs in bibliotherapy

Types of Bibliotherapy

Bibliotherapy can be used by different types of helpers with many different ages and concerns. One useful distinction is the following~

A Clinical Bibliotherapy

Clinical bibliotherapy is implemented by trained helping professionals dealing with significant emotional or behavioral problems. Clinical bibliotherapy involves the use of guided reading to help those who are having trauma in relation to their emotions, behaviors, or situation. It takes place in a clinical setting in the presence of a professionally trained counselor or therapist.

B Developmental Bibliotherapy

Developmental bibliotherapy may be used by teachers, librarians or lay helpers to facilitate normal development and self-actualization with an essentially healthy population. Developmental bibliotherapy involves the use of guided reading in more natural settings, such as in school. Through reading a book, students form a relationship with their current life and the literature they are reading. The focus of developmental bibliotherapy is mostly used with students in elementary and secondary school within a classroom setting.

Importance of Bibliotherapy in Library Science

Library is an integral part of educational career. Librarians working in hospitals and institutions have long been involved in programming for the rehabilitation and welfare of their readers. They have used the library and its resources as a means of therapy. Developing and applying the technique of bibliotherapy, librarians have used books and related materials to assist the individuals in the process of becoming what he still can be, to develop living skills and to bolster self – esteem. In so doing, librarians have supported the treatment program by assisting in the rehabilitation of the person. Reading actually is an analytical experience. In the process of reeducation, intellectual understanding of an emotional conflict does not suffice; the healing effect of an emotional reaction is needed.

In this endeavor, the librarian plays a most significant role. The interpersonal relationship which is established between the librarian and reader can be a dynamic factor in predisposing the reader to new experiences. The librarian analyzes the reader's needs to set a purposeful goal in reading – toward education, information and recreation, with emphasis on education- that is, in preparing the individual for modifying attitudes and, hence, his behavior. But in a total bibliotherapeutic experience, the role of the librarian extends beyond merely making reading available. It is one of active involvement. The librarian observes, listens, and notes changes and directional signals from the reader. These observations are reported to the team and a follow up guidance is planned.

In addition to an extensive knowledge of literature and a personal awareness of the benefits of reading, the librarian must know human nature and understand personality growth. As a part of the therapeutic concern the librarian also must

have knowledge of techniques of group leadership and individual guidance.

Bibliotherapy can be an effective tool in library science in helping readers with a variety of topics and concerns. However, as with any therapy, bibliotherapy must be planned and used appropriately in order to be effective. There are presents three factors that one using bibliotherapy must follow in order for it to be most effective :

1 Developmental appropriateness
2 Accuracy of content and effectiveness of style
3 Strategies for presentation
The library, the librarian and the library resources are being used as therapeutic agencies and factors which influence man's search for reality. The library is a neutral place, a non threatening environment. Three major factors for advancement of the field were developed:
1 The need for an educational program
2 The need for research
3 The need for a standard nomenclature

Conclusion

Bibliotherapy must be planned with creative activities. Book selection is the main part of it. There are no published criteria or standards for the selection of books for use in bibliotherapy. From time to time librarian, physicians and others have noted titles and types of literature that have proved rewarding or beneficial in treatment in certain cases. The range of materials used may extend from the cartoon type to the scholarly and scientific book. It may include the use of audiovisual aids, such as film strips, tapes, and talking books. Bibliotherapy is a valuable technique for educators that can be used both with a single student and with a group of students. It has many benefits both affective and cognitive for individual in need or crisis. It requires thoughtful planning and education to be successful. It is a really new horizon for self development.

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Digital Initiatives at National & International level Safeguarding Cultural Heritage

Iram Zehra Mirza*, Humma Ahangar, & Umera Farooq*****

Abstract

The paper discusses about some of the major digital Initiatives taken at national and international level by the various Institutions world over for the digital preservation of their heritage content. The paper explores the importance of digitisation in securing, processing, protecting and maintaining the Cultural heritage. The exploratory study is undertaken by identification of the major initiatives preserving the heritage collection at national and international level. Besides, the e-observation as a tool is used to ascertain the various facts and to obtain the detailed information about the initiatives in question. Digital Initiatives find an extensive place in recourses for the long term maintenance and accessibility of the cultural contents. The study will be of great help to policy makers, administrators, managers, particularly to the students and teachers and other elements associated with academics. The paper presents a new and emerging modelling approach towards education by the incorporation of digitization in their dealing activities.

Key words: Heritage, Digital Preservation, Digitisation, Culture.

Introduction

Preservation is traditionally a distributed activity. Securing and protecting the history of our world and our environment continues to grow around us. Individuals, institutions, archives, galleries, museums, libraries and nations have collected the cultural and natural heritage for thousands of years and each of them assumes the responsibility for its own holdings **(Liston, 1993).** However, the environment in which cultural heritage institutions operate has been radically changed by the associated phenomenon of information technologies, digitization, and the Web.

Now a day, Digitization brings the unique opportunity to the field of preservation with the digital preservation facility of the non digital documents. Thinking the importance of digital preservation, numbers of cultural projects are taken by different organizations for the preservation of their valuable materials in digital format; a long term plan for protecting and promoting the availability of digital heritage of the country. The Preservation initiatives undertaken world over at national and international level like any library, feature a high degree of selection of resources that meet criteria relevant to their mission, and provide services that facilitate use of the resources by their target community. They make it possible to discover study and enjoy cultural treasures from around the world. Some initiatives under study have a global perspective and are hallmarks of culture **(Abid, n.a)**.

Objective(s)

The main objective is to explore the major national and international initiatives safeguarding the cultural heritage.

Scope

The scope is limited to Major National and International Initiatives. The work is confined to study the digitisation work carried out by them in preserving their heritage content.

Methodology

The exploratory study is undertaken by identification of the major initiatives preserving the heritage collection at national and international level. Besides, the e-observation as a tool is used to ascertain the various facts and to obtain the detailed information about the initiatives in question.

Literature Review

Numbers of studies have been carried out on the digital Initiatives all around the world. These studies help us in understanding the preservation process, its outcome and need in the various facets of

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organisation for the upholding of their heritage collection.

A survey conducted by **Zorich (2003)** on North American-based digital cultural heritage initiatives (DCHI's), the report identifies concerns about the current status and tenuous state of many digital cultural initiatives and explored appropriate strategies to support and strengthen digital cultural heritage initiatives. **Ross (2004)** asserts on the impact that Lund Principles have had on digitisation initiatives in Europe on the accessibility, use of e-Content, conversion from analogue to digital form, storage, presentation, preservation, and impact assessment on the cultural and scientific heritage of Europe. According to **Jain and Babbar (2006)** the emergence of digital technology and computer networks has made considerable advances both in technology and its application. However, only sporadic and partial attempts have been made towards digital library initiatives in India where the projects aim at creating digital libraries concentrate only on specialized collections. **Devi (2008)** annotates that manuscripts are one of the precious materials of our cultural heritage, acting as a valuable source of history and knowledge and offering perspectives on contemporary society. **Mazumdar (2009)** brings to our notice some of the initiatives taken in Assam for preservation of manuscripts in print as well as in born digital format. The paper further highlights the major initiatives undertaken by various organisations for digitizing their manuscript collection. **Dawson (2010)** Examines a range of projects at three of Canada's national museums and provide insights on the broader context in which cultural institutions digitize, helping institutions understand their digitization priorities and challenges, and their relationship to their environment and external stakeholders, so they can better articulate rationale and strategy for digital content. **Sun Microsystems (2010)** in a case study of digital preservation at the National Library of New Zealand identifies digital preservation as an important part of its mission and lays stress on the National Digital Heritage Archive (NDHA) programme to address the digital preservation challenge and put in place the organization, strategy, planning, and technology required to make the preservation of New Zealand's digital cultural heritage a reality. A case study of Astan Quds library in Iran by **Seifi (2011)** draws our attention towards its major cultural collection. About 100,000 books, 26400 manuscripts, documents and letters about the people and events that have shaped Islamic and Iranian heritage have been collected in this library. Furthermore, the importance of preserving its heritage through digitization is also realized and steps have been initiated to digitize the collection for its maintenance and long term access. **Sa, Pacheco and Farrar (2011**) contend that the programs and initiatives undertaken by Ferreira-Mendes Portuguese-American Archives at the University of Massachusetts Dartmouth are contributing to an enhanced sense of empowerment and identity among the Portuguese in the U.S. while preserving and connecting them to Portuguese-American heritage.

Results & Discussion:

Preservation Initiatives at National Level:

The National Mission for Manuscripts (NMM)

National Mission for Manuscripts is the first consolidated national effort established in 2003 with the objective of creating a national resource base for manuscripts, scattered across the country in areas covering philosophy, sciences, literature, arts and the pluralistic faith systems of India. The Indira Gandhi National Centre for the Arts is the nodal Agency for its implementation. With a view to restore Indian manuscripts, in terms of both physical conservation and digitization, as well as to promote access through research and publication, the Mission operates through a national network of institutions and manuscript repositories, documenting electronic data of manuscripts on web which estimates to about 10 lakh; total data stock (hard data+electronic data) about 24 lakh and No. of repositories (institutions and private collections) amounts to 25,000. Furthermore, the agency has also

established network of 33 Manuscript Conservation Centres and more than 300 Manuscripts Conservation Partner Centres.

Khuda Baksh Oriental Public Library

Khuda Bakhsh Oriental Public Library located in Patna, Bihar has taken a Pilot Project of Digitization of manuscripts in October, 2005, which has a mighty collection of about 21,000 manuscripts in Arabic, Persian, Urdu, Turkish, Hindi and Sanskrit written on Palm-Leaves. The Library has completed the job of converting manual catalogues into machine-readable form by the NICNET (National Informatics Center Network). The document is browsed as a JPEG files. It has not introduced any retrieval mechanism as the document is treated as collection of images files in JPEG format.

Kalasampada: Digital Library-Resource for Indian Cultural Heritage (DL-RICH)

The project is sponsored by Ministry of Communication and Information Technology (MCIT),

has been developed to encompass and preserve the rare archival collections of the IGNCA (Indira Ghandhi National Centre for Arts). The system, aims at being a digital repository of content and Information with a user friendly interface, provides from a single window to view and access the materials including a couple of rare manuscripts collected from different Institutions of India and abroad mainly in microfilm and microfiche form, which estimates to about 12000 rolls of digitized microfilms, over 1,00000 Slides, rare photographs, thousands of Audio/Video film and documentation. A part from these, electronic books, various volumes of News letters (Vihangama) and Bi-annual Journal of IGNCA have also been included in the digitized collections. The project has received the prestigious ***Golden Icon Award*** for Exemplary Implementation for e-Governance Initiative under category "Best Documented Knowledge and Case Study for the year 2004" from the Ministry of Administrative Reforms and Public Grievances, Government of India.

A retrieval application has been developed and majority of these materials are available for online access on IGNCA Intranet which can be searched through a number of search options. These materials being the priced possessions are covered under the Intellectual Property Rights and various Copyright issues to prevent these materials from any kind of infringement action.

The National Library of India

National Library of India is an institution of national importance under the Department of Culture, Ministry of Tourism and Culture, Government of India. The library has initiated a pilot project entitled "Down Memory Lane". The project has been successfully digitizing books and manuscripts, which are a delicate and fragile, yet dominant store of knowledge and culture. Where Paper Manuscripts amounts to 3000 volumes approximately, Correspondence and diaries: 250 volumes approximately, Palm Leaf Manuscripts: 334 volumes approximately in Arabic, Persian, Urdu, Bengali, English, Hindi, Tamil and Sanskrit have been digitized.
From February 1999 to June 2001, a total of 6601 books containing more than 2.5 million pages were scanned and archived in 548 CD-ROMs (in duplicate).

Indian Art Preservation Research Project

This initiative is first of its kind in Asia. Under this program, 200 rare paintings of Rabindranath Tagore and Amrita Shergill are digitized for their Digital Library using the tool 'Digital Library Application Suite (DLAS) developed by the DL Group. The infrastructure to host this Digital Library is located at Centre for Development of Advanced Computing (C-DAC) Bangalore.

Preservation Initiatives at International Level:

Europeana

Europeana – a single access point to Europe's cultural heritage enables people to explore the digital resources of Europe's museums, libraries, archives and audio-visual collections. It promotes discovery and networking opportunities in a multilingual space where users can engage, share in and be inspired by the rich

diversity of Europe's cultural and scientific heritage. The collection includes:

- Images - paintings, drawings, maps, photos and pictures of museum objects
- Texts - books, newspapers, letters, diaries and archival papers
- Sounds - music and spoken word from cylinders, tapes, discs and radio broadcasts, Videos,films, newsreels and TV broadcasts

World digital library:

The World Digital Library is a cooperative project of the Library of Congress, the United Nations Educational Scientific and Cultural Organization (UNESCO), and partner libraries, archives, and educational and cultural institutions from the United States and around the world. It was launched on April 21, 2009 at UNESCO headquarters in Paris, France. The project brings together on single website rare and unique documents – books, journals, manuscripts, maps, prints and photographs, films, and sound recordings – that tell the story of the world's cultures. The site is intended for general users, students, teachers, and scholars. At launch, the library had 1,236 items. As of November 2011, it has 4,049 items. The WDL interface operates in Arabic, Chinese, English, French, Portuguese, Russian, and Spanish. The actual documents on the site are presented in their original languages.

California Digital Library (CDL):

The CDL was founded by the University of California in 1997 to take advantage of emerging technologies that were transforming the way digital information was being published and accessed. Among its programs and services are the Online Archive of California (OAC), Calisphere, Counting California, Melvyl (the union catalog of the UC libraries), and the e-Scholarship Publishing Program, which provides free public access to primary sources—including manuscripts, photographs, artwork, scientific data and more—through more than 20,000 collection guides and 200,000 digitized images and documents. The content on the OAC is contributed by more than 200 archives, special collections, libraries, historical societies, and museums at all 10 UC campuses and across California that house the original materials.

The Library of Congress: American Memory:

American Memory is a gateway to the Library of Congress's vast resources of digitized American historical materials. Comprising more than 9 million items that document U.S. history and culture, American Memory is organized into more than 100 thematic collections based on their original format, their subject matter, or who first created, assembled, or donated them to the Library. The original formats include manuscripts, prints, photographs, posters, maps, sound recordings, motion pictures, books, pamphlets, and sheet music. These materials, from the collections of the Library of Congress and other institutions, chronicle historical events, people, places, and ideas that continue to shape America, serving the public as a resource for education and lifelong learning.

The American Heritage Virtual Archive Project:

The American Heritage Virtual Archive Project is collaboration between the University of California, Berkeley, Stanford University, Duke University, and the University of Virginia in 1996 and is funded in part by the National Endowment for the Humanities. The Project is creating a shared database of EAD-encoded finding aids describing and providing access to collections documenting American history and culture. The primary goal of this project will be the development of a demonstration system, which will also provide a test bed to evaluate both the effectiveness of the prototype's "virtual archive" in providing access to distribute digital library resources, and the feasibility of the decentralized production methods of the project. To achieve its goal, the project will explore intellectual, political, technical, and economic concerns.

Conclusion:

The world's heritage is at risk of being lost to posterity. However, now a days digital

preservation of recourses is finding ways to maintain our cultural heritage. Digital preservation will ensure the long term maintenance of a byte stream sufficient to reproduce the document and provide continued accessibility of the contents over time and through evolving technology. Moreover, the Initiatives taken at hands will also offer sufficient grounds for safeguarding and promoting the cultural wealth for its easy accessibility.

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Expertise of E-Resources in Information Resources Center for Computer Science Institutions - A Study

Dr. K. Kumar*, T. Raghunadha Reddy, S. Tholkappian*****

Abstract

An ideal Academic library through the development of information and communication technology is becoming an Electronic library or a Digital library. The future librarian may be designated as cyberian or cyber librarian, as he has to provide information retrieval service from a large number of documents published in electronic form and accessible through Internet where a significant number of documents are available free of cost. The paper also discusses some of the Awareness of Electronic Resource in Academic Libraries in Chittoor District.

Keywords: Electronic Resource, Libraries, Awareness

Introduction

The Academic libraries endeavor to offer of information knowledge services according to the needs of its library users. Towards this objective, they put together a collection of information resources. The advances in information and communication system have opened up the possibility of instant access and dissemination of information as it is created. The Electronic library or digital library is the product of the technological expansion which enriched the field of library and information systems. The accessories we utilize in these libraries are CD-ROM, DVD, floppy disks, multimedia, computers, etc., and now the internet. The information technology, especially the inter has profoundly changed the ways of publication. Now a day's news paper, magazines and periodicals are getting published online versions and all kinds of texts are now available in digitized form. Publications are appearing with mixed media and they are in electronic format.

Digital media and networks have created new products in the network society. Therefore dissemination of information is changing with the increasing importance of computer technology. This paper is mainly focus Bivariate analysis was used in opinion in knowledge of computer science library professionals in Chittoor District at Andhra Pradesh.

Review of Literature

The information in electronic format was created with the advent of computer in 1950s, it was not until the early 1960s that the first database suitable for searching was developed (Meadow, 1988). They advent of non-book material was introduced much later in India. The non-material started to appear in the 1960s (Taher[1] and Davis,1994), like T.P.Sexena and saifuddin's problems of cataloguing Microfilms in 1962';The Bombay based Atomic Energy Establishment Microforms Bulletin in 1963,M.S Hussain's 'Audiovisual Librarianship';S.P Singh's 'Automation in libraries' in 1975 are few example. Sodak and Schwarz being the first to conceive electronic form of the scholarly journal; their vision was distribution of computer output microfiche to individual subscribers (1973).The MEDLARS was the first on-demand computer-based information retrieval service, and it was developed primarily for the medical profession. In 1971, MEDLINE, the online service of MEDLARS, was the first major online dial-up database search service. The DIALOG offered the first public online commercial database. With the introduction of CD-ROM in mid-1980s Electronic resources began to have a major impact on selection practices in libraries (Meadow[2], 1998).

Types of Electronic Resources

The Library resources are found in various formats such as E-books-journals, online databases, CD-ROMs, reference sources, etc. We found that the uses of e-journals are very popular in Academic and Research institutions. The other web resources like the online databases are also used in various libraries. However the printed books are not

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replaced with e-books as compared with e-journals. There are several reasons like technological limitations, tendency of user, and financial limitations.etc. The types of e-resources are classified as formal and informal.

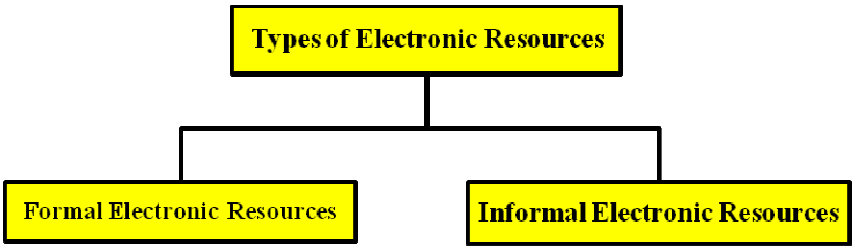

Figure 1: Hierarchy Diagram of Types of Electronic Resources

Formal Electronic Resources

- **Indexing and abstracting databases:** A large number of indexing and abstracting information services of the world have created their own databases, which can be searched from any part of the world on payment basis to retrieve necessary information. There are a number of vendors that posses plenty of online databases.
- **Full-text databases:** These resources provide full- text of the document apart from its bibliographical information. Nowadays various publishers are providing access to full text/databases through the internet. e.g. American chemical society.
- **E-journals-licensed or open access:** e-journal is one which is available in electronic form and can be accessed using computer and communication technologies. It is published and distributed in electronic media. Publisher/Aggregator is changing some fee to access the resources are called paid or licensed resources. Some publishers are providing free access to few of their journals and many organizations are making open access to their products. The e-journals are classified in to three types.
- **On-line:** Online journals are defined as those that are available on "Pay-as-you go" or 'cost per access basis' via such online hosts. These e-journals are not considered as a part of library collection, because most of the library users are rarely allowed free or unlimited access to the remote online system. Basically, online journals are the electronic version of existing printed journals, e.g.; American chemical society.
- **CD-ROM :** These are full text journals published and distributed[3] in the form of CD-Rom at a particular frequency along with search software to access and print. Numbers of publishers have started publishing some of their core journals in CD-ROM form during the last couples of years.
- **Networked journals:** With the emergence of the internet revolution took place in the periodicals publication sector. Now major publishers are using the internet as a medium to publish and the web as a global way for making their publications available to all. Mostly e-journals are available as databases where numbers of e-journals are available together.
- **E-books-licensed or open access:** E-books[4] is electronic version of books, delivered to readers in digital formats. They can be read on all types of computers. Including hand held devices designed specifically for reading e-books.
- **Reference databases:** Publishers are providing users[5] with various reference sources through their websites and databases, such as dictionaries, yearbooks, encyclopedias, etc.
- **Numeric and statistical databases:** It provides historical, financial, statistical[6] and marketing information.
- **Multimedia products:** Multimedia products are finding profound use in education and training. In class room lectures operation of a machine[7], a particular experimentation in a laboratory, a surgery in an operation theatre, etc. For using these products a well-configured computer system is needed. The computer should have CD drive, speakers, adequate memory, and so on. i.e. course material e.g. NPTEL.

Informal Electronic Resources

- **Blogs:** Blog is an online diary where one can post information[8] (not only text but also audio, photographs and videos) on a regular basis. Blog defined as referring content management (or distribution) tool/system that helps to broadcast useful information to end-user, in order to promote and create awareness in electronic environment.
- **E-mail:** User sends the library an e-mail with a reference query, supplying whatever information he or she feels is necessary. The library may reply by e-mails, phone, fax, letter, etc. Now a days the Web pages of Libraries are coming with "Ask a Librarian "option.

Limitation

- The study covers only for MCA College Librarians in Chittoor District Area.
- The Study not covers of other Library Professionals like (Asst.Librarian, Library Asst, etc)

Knowledge of Electronic Resources in College Librarians (Bivariate Analysis)

The present study was carried out to assess the Knowledge Accessibility of Electronic Resources in Academic Libraries in Chittoor District - A Study. So I have take opinion only Computer Science College (MCA) Librarians Chittoor District of Andhra Pradesh. The total MCA College[9] librarians is **33 (100%)** Structured Questionnaires were distributed (Population Sampling Methods) to college librarians, out of which **29 (87.88%)** responses were received. This constitutes of total responses and same was used for the above table 1 and Figure 2.

Table 1: Knowledge of Electronic Resources in Computer Science College Librarians

Knowledge of E-Resources	Poor	Satisfaction	Good
Indexing and abstracting databases	10(34.48)	11(37.93)	8 (27.59)
Full-text databases	7 (24.14)	13(44.83)	9 (31.03)
E-journals-licensed or open access	6 (20.69)	14(48.28)	9 (31.03)
On-line	9 (31.03)	12(41.38)	8 (27.59)
CD-ROM	12(41.38)	13(44.83)	4 (13.79)
Networked journals	13(58.62)	12(31.03)	3 (10.34)
E-books-licensed or open access	7 (24.14)	14(48.28)	8 (27.59)
Reference databases	9 (31.03)	5 (51.72)	5 (17.24)
Numeric and statistical databases	20 (68.97)	5(17.24)	4 (13.79)
Multimedia products	7 (24.14)	14(48.28)	8 (27.59)
Blogs	9 (31.03)	5(51.72)	5 (17.24)
E-mail	4 (48.28)	5 (17.24)	10 (34.48)

N=29 Response Rate (87.88%)

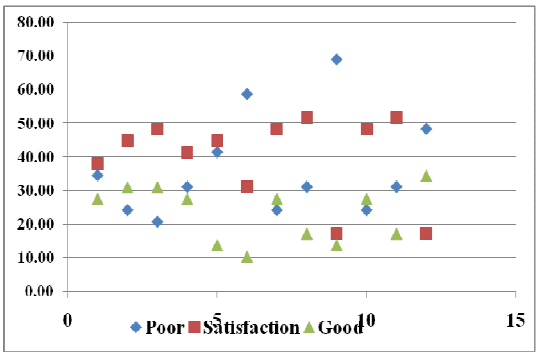

Figure 2: Scatter Diagram – Bivariate Analysis of Opinion in Electronic Resources

Table 1 is observed that three point scale methods were used in knowledge of Electronic Resource in Computer Science College Librarians in Chittoor District of Andhra Pradesh. Majority of usage in Full-Text Databases and E-journals-licensed or open access (31.03%) is Good following E-journals-licensed or open access, E-books-licensed or open access and Multimedia products 48.28% is Satisfaction, Numeric and statistical databases is 68.97% poor. Figure 2 Shows correction coefficient between two variables E-journals-licensed or open access with E-books-licensed or open access is correlated.

Suggestions

The following activities are needed to improve utility of the e-resources accesses.

- Announcements should be done by the library about the availability of new e-resources or additions of new databases for user of the library.
- Library should provide the facilities for the user to get familiar with e-resources subscribed by the library; this can be done by the present5ations organized by the concerned publishers or a vendors.
- Special training programs should be organized for students and faculty member for the maximum use of e-resources so that user can adequately trace relevant information.
- The library should also organize orientation programs for the new students and faculty members every year.

Advantages

Most electronic resources come equipped with powerful search-and-retrieval tools that allow users to perform literature searches more efficiency and effectively than was previously possible.

- Electronic resources are available to users and they can access them 24 hours a day through the Web.
- Navigate directly from indexing databases to the full text of an article and even follow further links from there.
- The user can re-specify his or her needs dynamically.
- The information is obtained based on the need so becomes "just in time" rather than "just in case".
- Electronic information can therefore provide a number of advantages over traditional print based sources.

Conclusion

This paper come out with a several important points relating to electronic resources like types of resources and access ,use and preference in publication, archival access, and habits in seeking electronic information etc., The electronic resources are becoming more and more available in the libraries. The print media is now being digitized, which increases the availability of books and journals in the electronic format. And ultimately which fulfils the one of the law of S.R. Ranganathan's five Law's of Library Science ,i.e., Save the reader's time.

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Marketing and Promotion of Library Services

Manisha R.Tiwari*

Abstract:

As librarians we should be actively marketing and promoting our library services. This paper aims to simplify marketing for librarians. Practical solutions are provided on how to implement a marketing strategy, with particular significance on the value of using electronic information resources. It also shows the link between promoting library services and raising the profile of the library. What are the advantages and concludes that the marketing policy of the libraries needs careful planning, structuring, execution & evaluation with regular review. It recommends librarians to be more proactive and systematic in marketing library services in order to consistently win the hearts of their users in totality.

Key words: LIS (Library & information services), Marketing Management, Academic Libraries, Information services, Marketing of Library and Information Services (MLIS), Online Public Access Catalogue (OPAC)

Introduction

As a concept, marketing has multiple definitions. Many of them are based on the activities included in that. At the very grass root level, people equate it to selling. Definitions by management gurus and respected organizations are given in insuring sections to give a comprehensive view of marketing. Marketing is frequently viewed as a set of strategies and techniques that belong to administrators outside of librarianship. However as librarians we are all involved in the process of marketing. Thus the essence of marketing involves finding out what the users want, then setting out to meet those needs. As librarians we all participate in this process of assessing our user's needs and trying to fulfill them. Thus, we are already marketing our library information skills. However, in order to do this effectively librarians need to wrap the total marketing function involving market research and analysis, service planning and promotion.

What is Marketing

According to American Marketing Association "Marketing is an organizational function and a set of processes for creating , communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders".(Kotler,P 2009)

Management guru Philip Kotler defined marketing as "marketing is the analysis, planning, implementation and control of carefully formulated programs designed to bring about voluntary exchanges with target markets for the purpose of achieving organizational objectives.

Heavily dependent on designing the organization's offering in terms of the target market needs and desires and on using effective pricing, communication and distribution to inform, motivate and service the market."(Kotler, P. 2009)

Marketing means understanding and responding to customer needs, a prerequisite for any organization for success. And this certainly cannot be ignored by any organization in today's competitive environment. However to be successful any organization has to be competition oriented too. It has to continuously determine its competitive advantage and take steps to further augment it. Thus the marketing concept involves:

- Customer orientation
- Competition orientation
- Ability to respond to environmental changes (changes in consumer needs, competition, government policy, technology etc.)Before competition does (Rajan Saxena)

1. Service

The fundamental idea of marketing is to focus how to better satisfy the costumer/user. For that the library staff should find ways to not only fulfill their costumer's current expectations from the

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library services but also to explore the possibilities and provide them extra services/information that customers have not even imagined. For the successful & excellent marketing librarians should do some important activities to attract the user for utilization of library services.

- Research for your customers' knowledge, customer groups and their needs now and into the future. Customers needs & wants, choosing targets and examining the perceptions customers have from your library.
- For marketing of your library services planning should be must, for that selecting the customers, choosing the products & services to provide, setting goals & objectives for the success of plan.
- For promote the library services effective communication skill is the most important factor without that it is impossible to achieve the goal & to give the best service to the customer. Promote your library services so your customers use them. In addition to that selecting the overall method for library services promotion is also mandatory.
- Serve your customer as you have promised in your promotions is fundamental to the services for your library. Complaints & glitches must be addressed immediately & adjustment should be made. All the while learning even more about the customers and their evolving wants & needs so future adjustments can be made serve your customers as you have promised in your promotions.

2. Knowledge

The first step in creating any marketing plan knows what your ambitions are. They want to do the promotional side of things rather than the harder side of the thinking. In light of the information gathered from the market research the conclusions should be summarized and stated as the basis upon which the market plan is based. The market plan is the actual process which will establish the library's business goals and objectives and figure out how to achieve them. The marketing plan is the tool which will ensure that the library services and products are viewed in a focused and clear way.

3. Planning

Once user's needs, future trends and resources available have been established the librarian is in a position to plan the marketing objectives, the resources to be used, the place and the time scale of the operation and the strategies required achieving them. The process of setting aims and objectives will serve a number of purposes. It will provide a focused overview of the library service and give direction and guidance in achieving the objectives. If possible objectives should be quantifiable in order to ensure effective evaluation. Once objectives have been set the strategies necessary to achieve them can be planned. If any of the objectives change over time then the market plan will need to be updated. It can be described in the following *figure1.*

4. Promotion

Essentially promotion is the means of informing your users what you do and what you can do. The benefits for those who promote their library services include: increased usage, increased value in the organization, education of users and changed perceptions.

The promotional plan emerges from the marketing plan. It is to do with how to achieve the objectives that have been forecast. It involves:

- A description of the service requiring publicity;
- Description of the audience at which publicity is targeted;
- Details of the campaign method to be employed including type of publicity to be used and method(s) of distribution;
- Execution of campaign;
- Analysis of campaign performance.

The setting of clear promotional objectives will also ensure that the success of the advertising campaign can be evaluated. From time to time it should be accepted that promotional activities have not met their objectives. At this point the marketing strategies need to be re-evaluated in the

context of the feedback received. It can be described in the following *figure1.*

Figure 1

5. The Medium

Promotional activities can take many forms and the promotional media will depend on the nature of the target audience and on promotional objectives. Marketing strategy depends on the type of audience and resources available. Following are few effective and successful strategies by which library professional can market their library services and resources.

- **Library Orientation Program:**
  Library orientation program is one of the most important ways for marketing library services, because of the program the user comes to know the facility of library and our goal achieves.
- **Library Website:**
  Library website is also an important tool for marketing of library resources, with this a librarian can update all the information related to library resources and also provide the easy to use steps in more interesting way so that the user may be benefitted with the same.
- **Display of New Arrivals:**
  New arrival in the library can be displayed at the entrance of the library and also can be sending through emails to all the users of library.
- **Table of Contents:**
  To send the Table of Contents to all its users via emails with different animation styles should be kept in the daily routine practice, this will be also a helpful tool for marketing of library services.
- **Database Flex:**
  To display the colorful & attractive flex with details of database including URL address/username & password can also increase the interest of library users to use the library facilities. The most important thing is that it should be attractive with multicolor print & can be visible from any corner of the library including the library entrance.
- **Web OPAC:**
  Today's techno savvy age this is must requirement for marketing the library services. The Web OPAC is very helpful to the users so as to search the information related to library (books/CD/periodicals etc), even they can check their user account by using web OPAC and submit the library material to the library, and they can reserve the book & submit the recommendation for new books as well.

6. Benefits of marketing library facilities:

- **Convenient:** Marketing of library & information services is more convenient for both user & library staff, because all the information provided on their fingertips so that it is more convenient for the users. For users convenience the information can also be provided in a interesting way as it can be in a manner of expert advice or created by likeminded individuals by sharing their expertise & their experiences.

- **Increased ability to select information:** As per the users demand & requirements

  Librarian/library staff could arrange selected information for users so as to make successful their plan of marketing. Also increased the ability to analyze & customers gets all the information very soon without wasting time.

- **Decreased human error:** With the help of advanced technology human error has been

  noticed negligible & the information & service seems accurate as expected by the user.. At the user end they found it appropriate as per their needs & as all the information are available online so that it decreased need of interaction.

- **Facilitating tasks of librarians:** Also For the librarians the MLIS (marketing of

library & information Services) is become a simplify task, because of that he/she can fulfill individual request for any manner related to information updates. As every information has been made available online through internet so that it saves time as well as energy of the library staff it results that the librarian/ library staff can perform several task simultaneously at a time. With all this facilities when the users satisfied with the library services by getting all the information which they ask & even which they don't expect, they also become a source of marketing of your library & after that the user of the library will increase. This can be a big success of a library & the important step for achieve the goal.

- **Offering services at any time:** Because of advanced technology it is possible to offer the services any time as there will be no time limit to access the library services. So that customer can get all the information 24/7. This can also increase the user/customer of the library because they are not having bindings to come to the library to get the information.
- **Creating positive image of library in people's minds:** Marketing of library & Information Services (MLIS) & making aware about the library services & facilities to the users are creating positive image of library & librarians in people's mind and that's why they now known as information managers, Annotators, Information architectures, information management analyst, information analyst, information & learning manger educational outreach specialist, market research specialist etc.

Conclusion

The ultimate aim of marketing here is *to provide the right information to the right user at the right time* as the modern library is now generally called an *information market* and the library user is a *consumer of information.* As librarians we should be actively marketing and promoting our library services. The basic aim of marketing is to know and understand our users in order that the library is able to satisfy those needs in an effective way. A marketing plan is an essential tool which will enable us to focus our efforts. The *information* is a basic resource for research and development of any nation. Marketing of library and information services includes customer/users priorities, expectations, individuality, responsiveness, relationship, quality of services, professional skills and competencies, value-added services, etc

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Role of Libraries in Online Scholarly Communication

Dr. Mohamed Musthafa. K*

ABSTRACT

Introducing the electronic publishing and briefly describes the growth and development of scholarly electronic publishing around the world. Further, defining the open access publishing, asserts that it is the best solution for libraries to overcome the 'serial crisis'. Author argues that libraries are the most suitable place for co-ordinating and undertaking the scholarly publishing activities in the academic institutions like universities in an electronic environment. The paper present some examples of best practices of library based electronic publishing at various universities at different parts of the world.

Key words: E-Publishing, Scholarly Communication, Open Access Publishing, Academies Library Based E-Publishing.

Introduction

Due to the development in computer networks, Internet and WWW the electronic publishing got an accelerated growth within a short span of time. Online publishing became a common mode of publishing in 1991 following the invention of World Wide Web by Tim Berners-Lee. The growth of Internet based publishing was immediate. Wilson (1997) reported that in January 1997, according to Network Wizards, there were estimated to be 650,000 web sites which were 130 in 1993. Recent studies reveal that number of web sites and internet hosts is growing very fast. American Chemical Society (ACS) was the first professional association to offer its publications in electronic form in 1983. Harvard Business Review was made available online providing full text articles via Bibliographic Retrieval Service (BRS) since 1982. Advanced Document Over Network Information Services (ADONIS) started its trial version in 1987 with 224 Bio-medical journals being e-published. But by 1994, the number of journals included in the service rose to 505 and 160 new titles were added in 1995. Online Library Computer Centre (OCLC), through its Electronic Journals Online (EJO) service, provides peer-reviewed journals online since 1992. This is the first scholarly peer-reviewed journal made available in the on-line environment (Moorthy, & Krisiddappa,1996; Sahoo, 2006).

The changes and developments in the scholarly communication systems and ever-increasing demand for information from the users have compelled the librarians to re-invent their role in the academia. Libraries are supposed to be the publishers of information along with preservation of outside-created information in their libraries. This practice has been started in many developed countries such as Denmark, Canada and United States.

Electronic Publishing

Electronic publishing or e-publishing is the act of disseminating literary works in digital form (OeB, 2000). Electronic publishing is the process of preparing, sending, reviewing, editing, and disseminating of information in digital format via network and on-line services or portable media like CD-ROM. Electronic publishing includes all the activities related with production and dissemination of information and knowledge. The definitions given by various scientist show that electronic publishing is a comprehensive term used to denote all the activities of scholarly publishing from manuscript preparation to peer-review. F.W. Lancaster (1995) defines Electronic Publishing as "a publication process where the manuscripts are submitted in electronic format, edited, printed, and even distributed to readers (users) in electronic form by employing computer and telecommunication technology". According to Encarta Online Dictionary it is the 'publishing on computer network or disk: the production of documents in computer-readable form for distribution over a computer network or in other formats such as CD-ROMs'. John Unsworth (1995) opined that 'electronic publishing refers to

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the dissemination of information, whether text-only or multimedia, via the Internet or through some hybrid or local media and networked archives. Networked electronic publishing can be the basis for producing these other media, and indeed for producing print'. Further Chandrakar (2006) quotes Gordon Wills of MCB University Press, UK, as he explained that "electronic publishing is the exploitation of electronics in any and every cost-effective and cost-beneficial way that can facilitate the process of publishing, where publishing for our purpose means: conceiving, creating, capturing, transforming, disseminating, archiving, searching, and retrieving academic and professional knowledge and information".

In fact the electronic publishing is the publishing system where all the possibilities of electronics, computer, Internet and communication technologies are utilized for the speedy, cost effective, and most efficient publishing and distribution of the intellectual endeavor of the human being. As a result of the high-speed communication technologies and high digital storage facilities, online publishing became more convenient and popular among the scholarly community. The number of online journal is increasing day by day and print journals started publishing online version simultaneously. The commercial publishers like Springer and Emerald provide the online electronic versions of their scholarly journals. It is important to note that as an impact of electronic publishing many academies and institutions have come forward to start their online journals. Once again the university publishing became the matter of discussion and many universities and higher education institutions like University of Chicago, Humboldt University, Berlin, Copenhagen Business School (CBS), Denmark, and Queensland University of Technology started publishing new online journals or converted print to online format.

Electronic publishing may be broadly divided into two categories: online and offline publishing. Online publishing uses computer and communication networks including the internet, intranet and extranet for delivery of content. Offline publishing uses storage media such as CD-ROM, DVD, memory card and diskette for distributing the content (Khatri, 2009). Different modes and methods are used for electronic publishing. Some popular modes of e-publishing are e-book, e-journals, e-zines, blogs, Wikis and institutional repositories. There are some other modes like Print-on-Demand, Digital Content, Electronic Ink, Podcasting, Vidcasting, E-mail publishing and Web publishing. E-publishing promises many benefits and solutions for the problems faced by the p-publishing in academia. The most important advantage of electronic publishing over print publishing is the turn-around time, i.e. the time lag in submission, processing and distribution of scholarly journals. Electronic publishing ensures timely publication, which is of utmost importance to the research community. The electronic publications can be disseminated world-wide without the need for separate rights negotiation for different countries and without the cost of distribution or reprinting where an electronic publication is charged for, the producer does not incur the costs associated with retail bookselling that is there are no 'middleman' costs.

Open Access Publishing

One of the important problems faced by any library in the contemporary world is the 'serial crisis'. A study conducted by Okerson (1991) reveals that America's 3500 academic libraries spend more than $1.25 billion a year on acquisitions out of which 58% spent on serials. Contrary to this, they found, about 70% of scientific journal articles are from universities. But universities are increasingly unable to 'buy back' their own work. Open access scholarly publishing is a best solution for libraries when there is an unbearable budget cut and a continuous price hike of journal which is called 'serial crisis' started in 1980s. The open access publishing gives more freedom and power for authors upon their publications which were restricted under the commercial publishing environment. The commercial publishers are getting the lifetime copyright of an authors work when he sign and transfer copyright statement. The publishers earn more profit out of the

intellectual contribution of a scientist for years where as the authors getting nothing for their intellectual endeavor. The open access publishing enhances the visibility and accessibility of an article without the barriers of 'price' or 'permission'.

When Professor Steven Harnad proposed the 'subversive proposal of scholarly communication system', the open access movement was getting started. Further there was a worldwide initiative to promote open access publishing, such as Budapest Open Access initiatives (2002), European Cultural Heritage Online (ECHO) Charter (2002), Bethesda Statement on Open Access Publishing (2003) and Berlin Declaration on open access to knowledge in the science and humanities (2003). According to Peter Suber (2003), 'open access literature is characterized by two essential properties. First, it is free of charge to everyone. Second, the copyright holder has consented in advance to unrestricted reading, downloading, copying, sharing, storing, printing, searching, linking, and crawling. The first property solves the pricing crisis and the second property solves the permission crisis'. The Berlin declaration defined open access as 'a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community'.

The Bethesda Statement on open access publishing (2003) defines open access publication upon two basic conditions: i) the author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use. ii) A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable standard electronic format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving. In short, as Peter Suber (2004) defines open access is a 'digital, online, free of charge, and free of most copyright and licensing restrictions'

Open access publishing models are very important catalyst for change in academic scholarly publishing. The technology provides easy and affordable facility to publish research output from the academy itself. And in any research or academic institution, library is the most suitable place to undertake this task.

Library Based-E Publishing System

As the role of librarians as the gatekeepers of externally-published information resources begins to shrink, their role as the guardians of internally-produced information resources has the potential to expand. Librarians are used to providing robust institution-wide services to a range of users. They have experience of working with people from different subject areas in order to support their activities and to deliver services to them. Librarians have a culture of customer service. They also have professional skills associated with the management and curation of information. Institutional repositories represent an opportunity to extend these skills into a new area on behalf of the institutions (Pinfield, 1998).

Karla Hahn, Director of the Office of Scholarly Communication for the ARL expressed his view in an interview that libraries could assume a role and responsibility further up the research chain and participate in the scholarly communication taking place during the research process itself rather that, as presently, "sitting at the end of the line"(Byne 2008). It implies that it is the time for libraries and information centers to actively play their role in research and development activities. As the modern technology provide enough freedom and opportunity for libraries to fill the gap between the publisher and the end user and libraries are considered as the centre point of knowledge and information in any

university or research institute, they can play this role as publisher very easily.

By stepping into the publishing arena, libraries can help level the playing field. The centrality of the library in the academy enables it to act as a primary catalyst for change in the scholarly communication domain. Libraries understand the culture of scholarship and are strategically well positioned to approach publishing from a service perspective. A great deal of scholarship, particularly in the humanities, now goes unpublished because conventional publishing models make it unprofitable to publish this material. But academic libraries, by using innovative publishing models and strategic partnerships, can rectify these inequities by offering models and services that address unmet publishing needs inside the academy.

Apart from acting as a publisher the university libraries can play another role by supporting the authors in publishing their research in 'author pay' or 'Gold Route' model open access journals. Laakso et al (2011) reports that "many research funders nowadays allow open access publishing costs to be included in research budgets, and that some universities have set aside earmarked funds for this purpose". Many university libraries in developed countries follow this practice as part of their policy to encourage open access publishing. In the University of Calgary, Canada, faculty and researchers may apply for support from $100,000 fund that is financed by the university's Libraries and Cultural Resources' budget for the purpose of paying the author fees charged by some open access publishers. Similar funds are in place in research libraries in United States and Europe with example established in 2005 at the University of North Carolina, Chapel Hill (Richard, Koufogiannakis & Ryan, 2009).

Best Practices

Richard quotes the Public Knowledge Project (PKP) site as it report that 'there are 11 academic library publishing series in Canada. In addition to the Canadian sites, there are approximately 20 library publishing sites in the United States, Denmark, Netherlands, United Kingdom, Indonesia, and Australia'. A number of Canadian libraries are at the forefront of OA Journal publishing. One of the best examples is Simon Fraser University Library which coordinated the development of the Open Journal System (OJS), a system used worldwide by hundreds of organizations to mange and publish peer reviewed journals (Owen & Stranak, 2008)

In Denmark, The Copenhagen Business School (CBS) Library sees it as a necessary and important faculty service to be able to offer their researchers, and the journals they edit themselves or at least publish in, a platform for e–publishing (or e–archiving) of journals. Since 2005 the CBS Library has been providing an e–publishing service of journals based on Open Journal Systems (OJS). This service has inspired other universities and university libraries to establish similar e–publishing services based on OJS. In the autumn of 2006 the second largest university in Denmark started a pilot project offering interested journals on the Aarhus University campus an opportunity to participate in a pilot project for an e–publishing service based on OJS. The pilot project has helped 22 journals to start publishing or archiving using OJS. The largest university in Denmark, the University of Copenhagen, planned to start a similar project in the autumn of 2007. The University Library at the University of Copenhagen supports an active blog on OA (Elbeak & Nondal, 2007).

The California Digital Library has been involved in an effort to coordinate the services of the library and University Press in order to better support and manage the University of California's scholarly output. The goal of the initiative—*the University as Publisher*—is to help the university reclaim its core intellectual asset (i.e., the knowledge it produces) and assert itself more powerfully in the marketplace of scholarly communication. *The University as Publisher* initiative is designed to be that transformative force for the University of California's 10-campus system, whose academic output is not insubstantial. The reality is that UC generates an extraordinary amount of diverse scholarly output that needs management. Each year,

UC faculties alone publish upwards of 30,000 journal articles; UC researchers are granted nearly 300 patents; and the university awards thousands of advanced degrees for the completion of theses and dissertations (Havens & Storey, n.d.).

These are some examples and practices carried out by the libraries in academia for publishing the scholarly output of their institutes' research around the globe. In 1997 Kovacs and Kovacs wrote that 'libraries are increasingly becoming involved with publishing their own e-journals, e-newsletters and other materials'. At that time it was hard to believe for the librarians in the third world countries including India. But gradually we realized the development of technology. After two years in 1999, Kovacs asserted that many librarians and other interested persons, including the editor and several of the authors, feel that the technology to solve the problems and take advantage of e-publishing is either currently available or clearly under development (Kovacs, 1999).

Conclusion

The users expects information to be digital, immediate, mobile, connected, personal, a balance of conception and creation, a balance of open and closed, and increasingly engineered. The expectations of users are changing and this is creating what Anderson called 'the daily divide' (Anderson, K & Dresselhaus, A, 2011). As the technology permits, the users want information at their hands where ever they are. The electronic publishing and availability of portable e-reader devices in different forms help the users to cross the barriers of walls and time of traditional libraries. This present scenario demands librarian and information professionals to re-think and re-orient their practices and services in libraries and to take the role of publisher in academies, at least in publication process of their own institutional research. The libraries those have started publishing are in collaboration with university presses. The librarians can play the role of mediator between the information creator and the users, the scientific community and the end users and the researchers and university presses.

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Use of N-LIST Consortia in Librareis

Rahul B. Khandare*, Dr. Shamkant J. Deshmukh& Dr. B. G. Mukhyadal*****

Abstract

The paper attempts to describe the concept, purpose and advantages of N-LIST and how to Access E-Resources through N-LIST. The paper also discusses the college, INFLIBNET responsibilities in N-LIST and importance of N-LIST in library.

1. Introduction

N-LIST is An Initiative of Ministry of Human Resource Development (MHRD) Under the National Mission on Education through ICT. The programme is funded by the MHRD to extend access to selected e-resources to colleges covered under 2F/12B Act of UGC. The programme is setting-up for augmenting, enriching and strengthening existing LIS Infrastructure at college level. It is simply a college consortium.

2. What is N-LIST

The project entitled "National Library and Information Services Infrastructure for scholarly Content (N-LIST)". Being jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium. LIT Delhi provides for Cross subscription to e-resources subscribed by the two consortia, i.e. subscription to INDEST-AICTE resources for universities and UGCINFONET resources for technical institutions and Access to selected e-resources to colleges.

The N-LIST project provides access to e-resources to students, researchers and faculty from colleges and other beneficiary Institutions through server (s) installed at the INFLIBNET center the authorized users from colleges can now access e-resources and download articles required by them directly from the publishers website one they are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre.

3. Beneficiary Institutions

- **Universities:** Universities covered under Phase-I of the UGC-INFONET digital Library Consortium can now access web of Science.
- **Technical Institutions:** IITs, iisc, iisers. And selected e-resources namely Annual Reviews, Project Muse and Nature Act can now access selected electronic resources including electronic journals, electronic books and bibliographic databases, These resources include more than 3,000 E-journals and 75,000 E-book**s.**

4. Why N-LIST

UGC-INFONET digital library consortium was not considered feasible for the colleges and practically it was possible to give access to them through the consortium. Moreover most of the journals subscribed are not required at college level students, especially in rural & backward areas. So a smaller bouquet with select titles has been prepared under a new programme N-List and it is being offered to colleges only. It facilitates access to e-resources to students, researchers and faculty from colleges through proxy servers. N-list provides scholarly information in the e-format at discounted rates. (Rani and Sharma, 2010)

5. Vision and Mission

- Access to scholarly information for all educational institutions
- Bridging digital divide and moving towards a information-rich society
- Provide access to subscription-based scholarly information (e-books and e-journals) to all educational institutions
- Provide access to scholarly content available in open access through subject portals and subject gateways.
- Host scholarly content generated indigenously in digital format in open digital Repositories.

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****Librarian**, Nutan Maratha College, Jalgaon,– (Maharashtra), deshmukhshamkant@gmail.com
*****Librarian**, Shri V. S. Naik Arts, Commerce and Science College, Raver, Tq. Raver Dist., Jalgaon (Maharashtra), bgmukhyadal@gmail.com

6. Advantages of N-LIST

- Available to very low cost-Colleges are required to pay 5000 Rs. Only.
- Minimum Infrastructure requires college should have adequate number of Internet enabled PCs and connectivity to Internet so as to access E-Resources through N-LIST.
- Accessible at anywhere N-LIST plays a vital role in decimation of Knowledge. N-LIST to improve the efficiency of library to render service to end users and provide effective. Information services to faculty research scholars and student in achieving their goal.

7. Electronic Resources Subscribed Under the N-List Programme

Sr.	E-resources / Publishers of Electronic Journals	No. of Titles
1	American Institute of Physics	18
2	American Physical Society	10
3	Annual Reviews	33
4	Cambridge University Press	224
5	Economic and Political Weekly	1
6	Indian Journals.com	150
7	Institute of Physics (UK)	46
8	JSTOR	2000
9	Oxford University Press	206
10	Royal Society of Chemistry	29
11	H.W. Wilson	1420
12	MathSciNet (Bibliographic Database)	1
	Total	4,138

Sr. No.	E-resources / Publishers of Electronic Books	No. of Titles
1	Cambridge Books Online	1000+
2	E-brary	83000+
3	EBSCo Host-Net Library	936
4	Hindustan Book Agency	65+
5	Institute of South East Asian Studies(ISEAS) Books	382+
6	Oxford Scholarship	1402
7	Springer e- Books	2300+
8	Sage Publication E-books	1000
9	Myilibrary- McGraw Hill	1124
10	Taylor and Francis E-books	1800+
	Total	93, 009

8. Resources Available Under NLIST Programme

Beneficiary colleges. Registered for the N-LIST programme, can access more than 3,000 electronic journals. 75,000 electronic books and a bibliographic database called MathSciNet containing more than two million reviews of research articles in mathematics. Details of e-resources accessible through the INFLIBNET" s proxy servers (http://nlis\ inflibnet.ac.in) are as follows: Please visit http://nlist.inflibnet.ac.in/downloads.php to download the list of e-journals/ e-books covered in a given resources

9. What Are The College Responsibilities?

- Create Infrastructure: Local Area Network and connected to Internet
- Provide faculty and students Internet-enabled PCs to access to Internet
- Arrange awareness programmes for "how to use these online e-resources"
- Register with INFLIBNET for N-LIST Programme (fill-in Questionnaire-online / offline)
- Provide their IP addresses / list of faculty and students with requisite attributes to INFLIBNET
- Carefully provide login/password after obtaining from INFLIBNET
- Assign a Contact Person for inter-acting with INFLIBNET Centre
- Pay Annual Fees of Rs.5000/- to INFLIBNET Centre

10. What Are The INFLIBNET Responsibilities?

- Set-up Authentication Proxy Servers
- Create Log-in IDs and Passwords for faculty and students (automated process)
- Open access to e-resources through proxy servers
- Generate awareness and evolve tutorials and guides
- Training programmes

11. Current Status of Members

There are 3324 colleges which have registered themselves with the N-LIST programme including 2176 12B/2F colleges, 853 Non-aided colleges, 3027 12B/2F and Non-aided colleges as on May

2013 as per the information available at the site of INFLIBNET, Ahmadabad.

12. How to Join

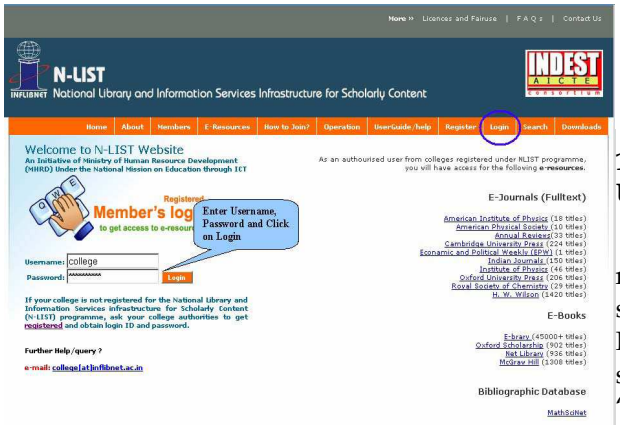
Faculty, staff, students and researchers from colleges covered under the 12b/2F Act of UGC are eligible to access e-resources through the N-LIST project. Colleges Desirous of accessing E-resources are required to register them with the N-LIST. Visit the N-LIST website and click on Register of the navigation bar/ Fill-in the Registration Form online and submit it. You may also download the Registration Form and submit it by post. Please enclose a copy of 12B/ 2F certificate issued by the U.G.C.

13. How to Access E-Resources through N-LIST?

Follow the steps given below in order to access e-resources through N-LIST Programme;

13.1. Login

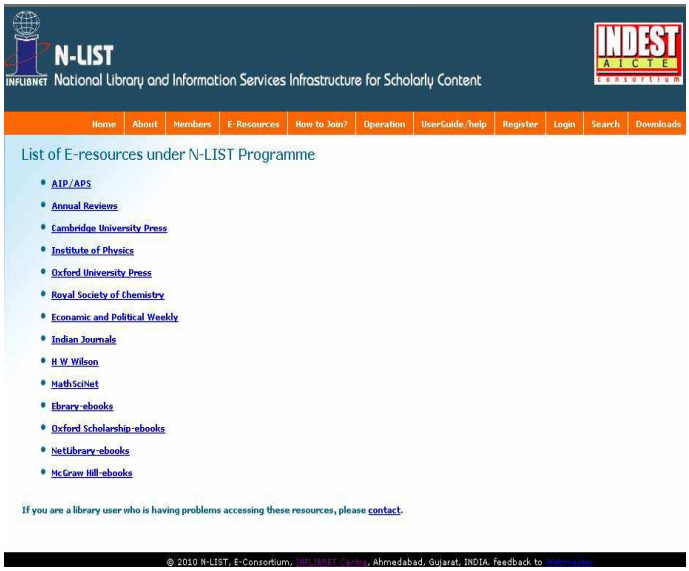
Launch your Internet Browser (Internet Explorer or Google Chrome) and Log on to http://nlist.inflibnet.ac.in. Enter Your Username and Password in text entry box and click on **Login** as shown below. If you do not have username and password, please contact your college authorities to register with N-LIST and obtain username and password.

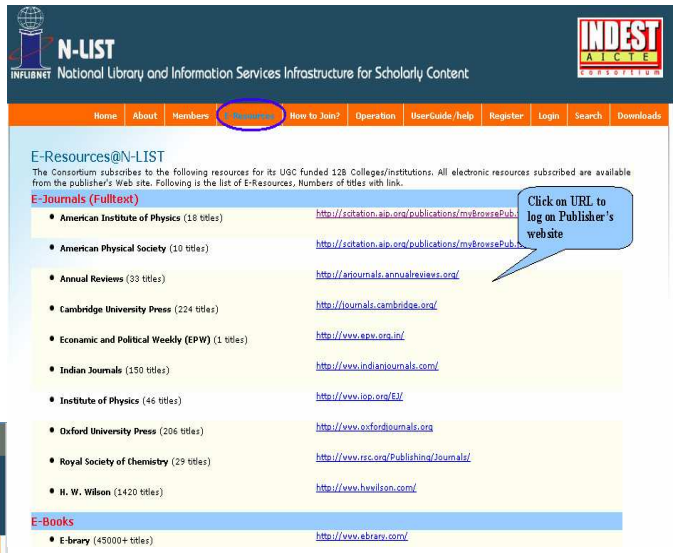


On successful Log-in, a list of e-resources subscribed through NLIST Programme will be displayed.

13.2. Access E-Resources

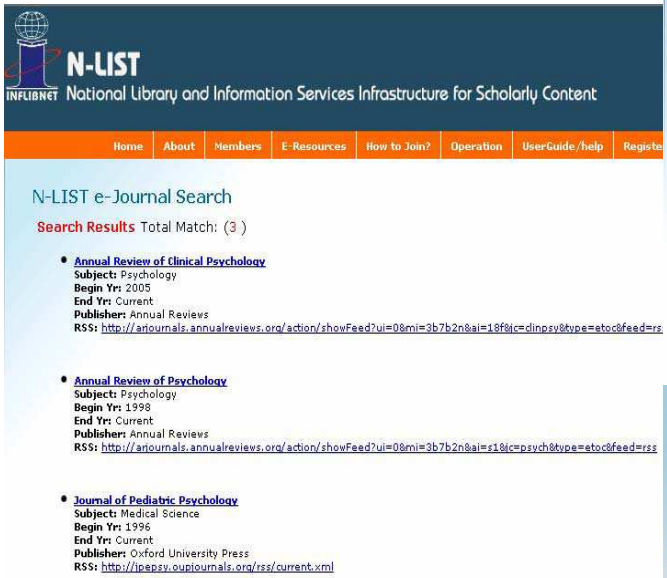
Click on the desired **E-resource** to reach out to the full-text e-resource on publisher's website. For further help in search, browse or navigate articles / book chapters through publisher's website, Click on **User Guide / Help** from navigation bar and download user manual and tutorials.



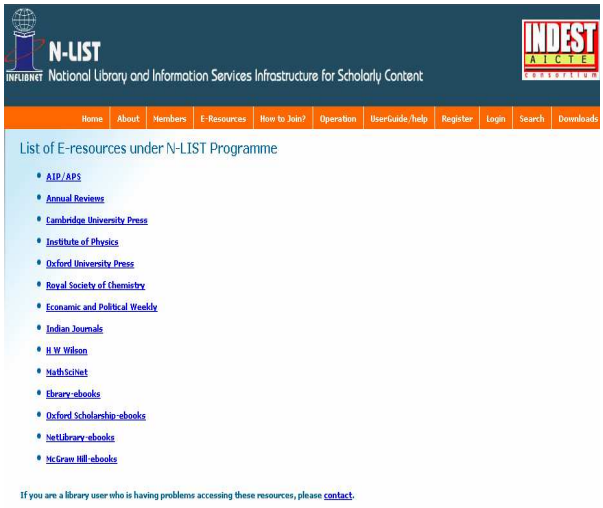


13.3. Searching Journals Titles Covered Under N-LIST programme

Click on "Search" option on navigation bar of N-LIST Web Site to search journals covered under the N-LIST Programme. Enter name of journal or a subject term in text entry box and click on "Go". Search results will be displayed with link to full-text of journal(s) on publisher's Web site.



Click  on button on your browser to logout.

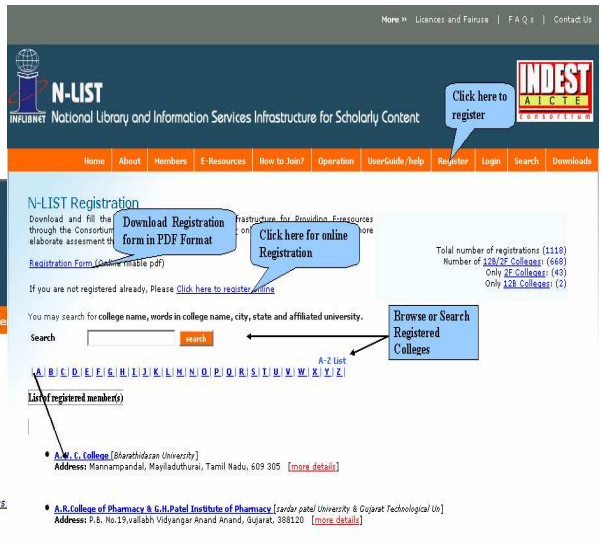


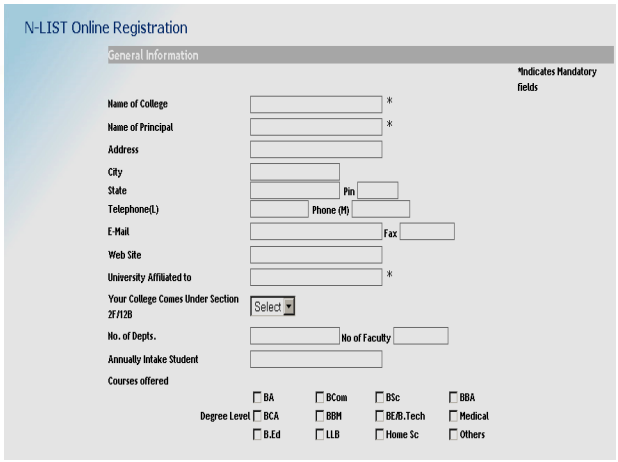
14. Instructions for College Authority

Get Registered

Faculty, staff, students and researchers from colleges covered under the 2F / 12B Act of UGC are eligible to access e-resources through the N-LIST programme. Follow the steps given below if your college is not registered with the N-LIST Programme as yet.

a) Click on "**Register**" option from navigation bar of N-LIST Web site, N-LIST Registration page will be displayed as shown below.





b) You will be prompted to fill-in and submit the Registration Form (on line/off line). Submit a copy of 12 B / 2 F certificate issued by the UGC.

c) Ensure to mention static IP Address of your college in Registration Form (if available) else provide list of authorized users including faculty, staff, researchers and students.

d) Username and password will be created for authorized users, i.e. faculty, staff, researchers and students as per the list submitted by you in the prescribed format, preferably in excel format as softcopy, as shown below.

Details of Administrative / Technical Contact					
Name of College: _____					
First Name	Last Name	Email ID	Role (Designation)	Department	Valid upto (dd/mm/yy)
Details of Faculties / Researchers / Students					
Name of College: _____					
First Name	Last Name	Email ID	Role (Designation)	Department	Valid upto (dd/mm/yy)

e) . After submitting details of authorized users, User ID and Password of each user will be sent to the contact person / Principal of College as mentioned in the Registration Form.

15. N-LIST Registration State-Wise

Sr. No	State	Registered	Access Enabled
1	Andaman and Nicobar Islands	2	1
2	Andhra Pradesh	96	80
3	Arunachal Pradesh	4	2
4	Assam	73	69
5	Bihar	18	17
6	Chandigarh	12	9
7	Chhattisgarh	44	25
8	Dadra and Nagar Haveli	2	0
9	Daman and Diu	1	0
10	Delhi	33	31
11	Goa	19	15
12	Gujarat	260	125
13	Haryana	19	11
14	Himachal Pradesh	67	34
15	Jammu and Kashmir	37	28
16	Jharkhand	5	5
17	Karnataka	299	207
18	Kerala	187	127
19	Madhya Pradesh	46	35
20	Maharashtra	439	373
21	Manipur	33	33
22	Meghalaya	20	15
23	Mizoram	8	8
24	Nagaland	6	5
25	Orissa	45	40
26	Pondicherry	42	11
27	Punjab	66	50
28	Rajasthan	31	16
29	Sikkim	1	1
30	Tamil Nadu	160	133
31	Tripura	2	0
32	Uttar Pradesh	38	30
33	Uttarakhand	5	4
34	West Bengal	99	93

Conclusion

The dream of the INFLIBNET Centre to extend access to e-resources to colleges will soon be realized under the project entitled "Indian National Library and Information Services infrastructure for Scholarly Content (N-LIST)" funded by MHRD under its National Mission on Education through ICT. Under the project, individuals (including students, researchers and faculty) from colleges would be able to access e-resources and download articles required by them directly from the publisher's website once they are duly authenticated as authorized users.

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Virtual Reference Service: A Study

Amol D. Khobragade * & Dr. (Mrs) Shalini R. Lihitkar **

Abstract:

The paper highlights on Virtual Reference Service, how the new face of service is evolving as a natural solution to keep pace with the multifaceted technological environment. Virtual Reference Service is an emerging trend of traditional reference service. The paper is highlighted on the role of Virtual Reference Service. It is specially focused on some form of Virtual reference service provided through the internet. In addition, Digital Libraries provides in Virtual Reference Desk Service.

Keywords: Reference Service, Virtual Reference Service, Digital Reference service

1. Introduction:

The primary aim of the library is to offer a variety of services to its clientele to meet their specific information requirements. Several techniques such as classification, cataloguing, shelving lists, OPAC, open access to its readers and similar other types of services are all indirect form of assistance to users to find their document in the library. One of the basic objectives of every library and information centre is to save the time of the user as well as to provide specific information as quickly as possible. The method used for the same involve personal efforts to bring together user and his document. Hence, this method of providing personal attention to readers in terms of meeting their specific needs is given the name 'Reference Service'.

According to Dr. S. R. Ranganathan, in the present electronic and communication Environment 'Reference Service' is not only confined to the library service, but also to remote users. Sometimes, it is termed as E-Reference Service, Digital Reference Service, Virtual Reference Service; its main objective is to provide pin-pointed, exhaustive, expeditious service to its information seekers whenever they have a query. In the fast changing technological era, with the advent of internet as powerful medium to provide the information round the clock i.e. 24x7. The internet with its services like e-mail, www, bulletin board services have changed the notion of traditional library into digital library and the traditional services are now called information services. To meet the quick demand of the user librarians maintains digital collection and also access e resources and provides information in digital mode. With the emergence of digital library and influence of internet, the concept of traditional reference service has transformed into Digital reference service.

The user to meet their information needs of the changing technological environment digital reference service is a natural solution which is supposed to be an advancement of the traditional reference service. Digital reference uses the internet to allow people to connect with a librarian. In the process of providing Digital reference service the reference librarian receives question via e-mail or web interface, identifies the query and then decides appropriate course of action. He analyses the request and gets the type of information required.

2. Definitions

2.1 Reference Service:

Reference services also sometimes referred to as 'Reference and Information services' which means personal assistance provided to the users and potential users of information (Bunge, 1999). It is characterized by a high degree of interaction between staff members and individual users or specifically identified group of users or potential users. For providing such personalized information, service has remained the main aim of library and information profession. In another definition, James Wyer has defined it as 'that part of library administration which deals with the assistance given to readers in their use of resources of the library'.

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2.2 Virtual Service:

Virtual services as a means of connecting the library to the public via an electronic network. While it might be easier to simply say "through the Internet," there is a wide range of electronic networks, from Local Area Networks (LAN) connecting workstations and printers, to wide area networks linking organizations around the globe. While this chapter, and the literature at large, will focus on the Internet, it is important to understand that services may be offered within an organization, through a so-called intranet. These services share much in common with Internet services, often utilizing the same software, but have marked differences.

Intranet's are defined by a greater degree of control (i.e., an organization can mandate a given piece of software, or a certain degree of training) and knowledge of the user population (i.e., knowing who has logged into a service, or knowing the exact computing platform of an organizational member). While this chapter will concentrate on Internet services to the general public (or at least a population over which the library has low knowledge or control), where appropriate the author will point out intranet possibilities.

2.3 Virtual Reference Service:

'Virtual Reference' is Reference Service initiated electronically where patrons employ computers or other technology to communicate with public services staff without being physically present. Communication channels used frequently in virtual reference includes

- Chat,
- Video-conferencing,
- Voice-over-IP,
- Co-browsing,
- E-mail, and
- Instant Messaging.

Virtual Reference Service is also an Internet based reference service where a user can ask a question online, where the user and the librarian communicate in real time. It uses computers and communication technology to provide Reference Service to users anytime and anywhere.

Virtual Reference Service is an online reference service that enables library patrons to ask reference questions through a library's website. The user may be at home, in office, at school, or in a library. Some Virtual Reference Services also place answers to frequently asked questions (FAQs), selected reference tools, and access to selected databases on the website. The question answering service using Internet technology is the essential component, without which the use of the name "Virtual Reference" is misleading.

VRS is defined as the provision of real-time personal assistance to patrons via web-based interactive software. To meet the user at his or her "point of need" and to satisfy the patron's information need, the librarian can use a "Chat" component of the software to answer a fairly specific or simple question, possibly deliver slideshows, 'push' web sources to the patron, and provide online bibliographic instruction. The "point of need" may happen when the library is closed, or when the user is unable to get to the library. This way, users can still be in contact with experienced reference librarians.

3. Elements of Virtual Reference Service:

Virtual Reference Service incorporates the following basic elements:

- The User
- The interface (web form; e- mail; chat; video etc.)
- Electronic resources (including electronic or CD –based resources; web resources; local digitized material etc.) as well as print resources
- The information professional

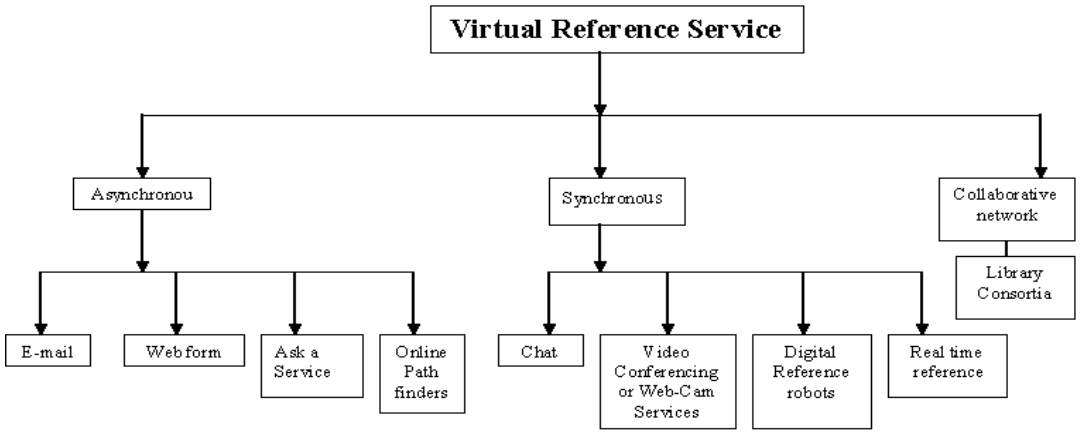
4. Modes of Virtual reference service:

The Virtual Reference Service models can be broadly divided in to three categories. The following figure exhibits the various types of Virtual Reference Service currently in practice.

[Source: http://eprints.rclis.org/copyright (Last Accessed on 27/6/2011)]

4.1 Asynchronous Transaction

The Asynchronous transaction involves a time delay between the question and answer, such as with e-mail



to based, web form or Ask a service, Virtual Reference Desk (VRD) service, Question Point, Online Pathfinders, etc.

4.1.1 E-mail reference service:

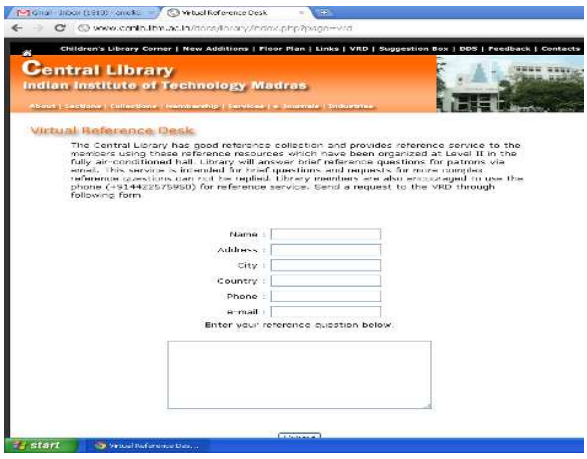
This is a simple, cheapest and cost effective service in which transaction involves back and forth exchange of information. User sends the query in the form of a message and receives an answer at a later time. User can ask a question even when the library is closed. Library gives reply by e-mail, fax or phone as he finds it convenient.

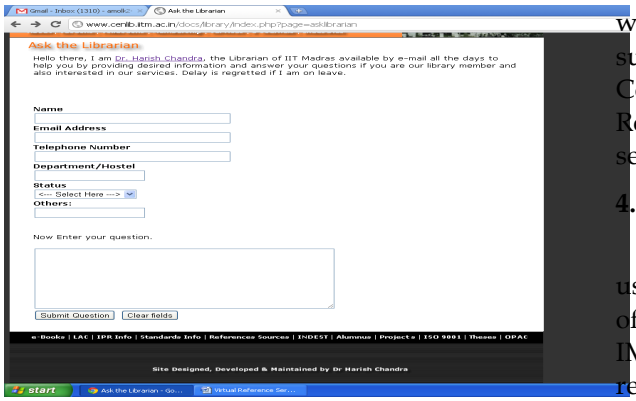
4.1.2 Reference via Web

The web form has to be accessed from library home page or reference web page. The fields then have to fill in by the user and finally the form is sent back to the library through e-mail. Answers usually provided by e-mail, phone/post. The web form usually includes several categories for example, personal and contact details, several optional fields which after filled in by the user, remove the confusion of the reference librarian to the some extent. This web form is useful for reference librarian as well as users as it provide structured format for questions

4.1.3 Ask-A-Librarian

Ask-A-Librarian services are Internet-based question and answer service that connects users with individuals who possess specialized subject knowledge and skill in conducting precision searches. Most "Ask-a-Librarians" services have a web-based question submission form or an e-mail address or both. Users are invited to submit their queries by using web forms or through e-mail. Once a query is read by a service, it is assigned to an individual expert for answering. An expert responds the query with factual information and or a list of information resources. The response is either sent to the user's e-mail account or is posted on the web so that the user can access it after a certain period of time. Many services have informative web sites that include archives of questions and answers and a set of FAQs. Users are usually encouraged to browse archives and FAQs before submitting a question in case sufficient information already exists.





Source: http://www.cenlib.iitm.ac.in/docs/library/index.php?page=asklibrarian

4.1.4 Virtual Reference Desk (VRD) service

Virtual Reference Desk is internet-based information services. The basic principle of a Virtual Reference Desk is a 24-hours shared reference service, which allows users (students, staff and researchers) to ask questions, whereby librarians provide answers or guidance either by e-mail, website forms, instant messaging or interactive video, and eventually via videophone. A VRD service is a web-based structure of connected libraries and information services and access is possible from any location either work, home or remote/mobile.

Source: http://www.cenlib.iitm.ac.in/docs/library/index.php?page=vrd

4.1.5 Question Point

QuestionPoint reference management service provides libraries with tools to interact with users in multiple ways, using both chat and email. The Web-based chat tool with co-browsing capability, coupled with the email reference component, enable seamless integration of chat, follow up and referral, as well as one-stop reporting tools for all types of reference services. In addition, libraries may opt to participate in the 24/7 Reference Cooperative to provide live around-the-clock reference service to their community.

4.2 Synchronous Transactions

The synchronous transaction, on the other hand takes place in 'real time' with an immediate response to the query, such as in chat based services, Video Conferencing or web cam services, Digital Reference Robots, Real time Reference services (Live Ref, 24/7 Ref), etc.

4.2.1 Text based Chat/Instant messaging:

Instant messaging (IM) services are used by some libraries as a low-cost means of offering chat-based reference, since most IM services are free. Utilizing IM for reference services allows a patron to contact the library from any location via the internet. This service is like the traditional reference interview because it is a live interaction between the patron and the librarian. On the other side the reference interview is different because the conversation does not float away but instead is in print on the screen for the librarian to review if needed to better understand the patron. IM reference services may be for the use of in-house patrons as well as patrons unable to go to the library. If library computers support IM chat programs, patrons may IM from within the library to avoid losing their use of a computer or avoid making embarrassing questions public.

4.2.2 Video Conferencing or web cam services:

Video Conferencing is introduced as a remedy to the communication problems inherent in text based services. This digital form include visual elements where user and librarian both can use text and speech transactions and they can and hear each other just similar to face to face interview. This service is useful in distance learning, research and reference applications, can be found in off-campus library services of University libraries.

4.2.3 Digital Reference Robots:

Digital Reference Robots essentially use artificial intelligence to respond to questions; the most well known of this type of service is Ask Jeeves available on the Internet.

4.2.4 Real Time Services

A new and exciting method of Virtual reference service that libraries are attempting to provide more and more now is live reference. These are real-time, interactive reference services in which the users can talk to a real, live reference librarian at any time, from anywhere in the world. User and librarian can interact using chat technologies, and unlike with email reference the librarian can perform a reference interview of sorts by asking the users to elaborate or clarify if needed before proceeding to answer the question. The librarian can perform Internet searches and push websites onto the user's browser, and can receive immediate feedback from the users as to whether their question have been answered to satisfaction.

Sr	Name of Service	Launch and By	Type of Service	Service Offered	URL
1	Ask.com		Online Reference Service	Ask.com's search technologies fast and relevant information for millions of people.	www.ask.com
2	Ask a Librarian	1998	e-mail reference service	Its utilization, and evaluation of the service through user surveys and virtual reference service	www.askalibrarian.org/
3	Collaborati--ve Digital Reference Service	2000 LC and Partner	expert reference service	provide virtual reference service "... to users anywhere anytime, through an international, digital network of libraries	http://www.loc.gov/rr/digiref/
4	Virtual Reference Desk (VRD)	1999 U.S. Departm-ent of Education	Virtual reference desk	Virtual reference desk works to advance "Ask A Services" on the internet and digital reference in generate	http://www.vrd.org
5	AskNow	Phone or Online Chat	Online Ref. Ser.	Easy, convenient, affordable to connect live	http://www.asknow.com
6	Internet Public Library, Ask an Ipl2 Librarian	e-mail reference service	reference information online	24X7 hours service filled the form and submit the question and answer by mail	http://www.ipl.org/div/askus/
7	LC, Ask a Librarian	Online Chat	Online site to Ask a Librarian	ask a reference librarian a question and get an answer	http://www.loc.gov/rr/askalib/
8	Wikipedia	Virtual Reference Desk	Online reference Encyclopedia	Allow users to search and retrieved information from Encyclopedia	www.wikipedia.org
9	Webopedia	Virtual Reference Desk	Online ref.Encyclopedia	Allow users to search and retrieved information from Encyclopedia	http://www.webopedia.com/quick_ref/
10	Britannica.com	Virtual Reference Desk	Online ref.Encyclopedia	Allow users to search and retrieved information from Encyclopedia	www.britannica.com
11	AskAway	Free chat based ref. service		information service offers immediate, interactive, and knowledgeable help on-line.	http://www.askaway.org
12	AskUs	Online chatting	expert ref.service	Directly ask question to the Librarian	www.askus.in
13	Refdesk. com	1995	Online mailing service	Free and family-friendly. aims to index, review, & publish quality, information-based Web sites and to assist readers in navigating and extracting needed data.	www.Refdesk.com

4.3 Collaborative Networks

Many libraries and organizations have recognized the benefits of providing Digital Reference Service through collaborative services. Some regional library consortia are offering member libraries the opportunity to share reference questions with each other using the internet and other technologies. The collaborative Digital Reference Service (CDRS), operated by the library of congress, is an international network of libraries, consortia, museums, Ask a services that uses a help desk system to route questions to appropriate institutions based on member profile.

5. Objectives of Virtual Reference Service

Libraries of the current digital era have undergone massive facelift. To achieve the goal of providing excellent services and assist users with their educational and research needs, the reference librarian answer reference questions, both to users in the library and remotely through telephone, e-mail and online services. Hence the virtual reference service has the following basic objectives:

- To provide individual assistance and instruction.
- To help in Online Searching.
- To provide and maintain an appropriate collection of reference resources, both print and electronic.
- To assist users with locating the best sources of information.
- To help and assist in professional activities for professional development and growth.
- To help in referral process, forward the enquiry or provide the user with live links to authoritative websites.
- To educate users concerning resources and research techniques in order to help them to become information literate.

6. Present Scenario in India

The higher learning and research institutes in India such as All the Indian Institute of Management (IIMs), Indian Institute of Science (IIS), Indian Institute of Technology (IITs), The Regional Engineering Colleges (RECs), Tata Institute of Fundamental Research (TFIR), Indian Statistical Institute (ISI), Indian Agricultural Research Institute (IARI), Institute of Veterinary Research of India (IVRI), All India Institute of Medical Science (AIMS), Institute of Physics, Institute of Life Science, Shaha Institute Nuclear Physics, The Medical College Libraries etc, have provide Virtual reference services. Virtual library services in India are in developing stage. At present most of the university libraries have taken steps to provide web-based reference and information services.

Conclusion:

Paper concluded that day by day, information world is turning in glorious way. The information needs of the users are increasing more and more. Today, the information is published first in digital form. As the users need the information, they directly go to internet first. Internet has become the library of without wall. It has become the consortium of the universe of libraries. The librarian is available as 24x7 as Ask a Librarian, Ask me. The libraries are being digitized. So, there is a need of reference service provided virtually. The service values that librarians must be prepared to advance as libraries shift to a more digital environment. The users get the virtual reference services without boundaries of libraries at anytime and anywhere. The user can retrieve remotely access of e-reference material.

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Knowledge Management and LIS Professionals

Ms. Ruchi Purohit*

Abstract

The study aims at exploring the relevancy of knowledge management (KM) to library and information science (LIS). It attempts to describe the KM field in terms of its relevance for the Library and Information Science (LIS) professions. The paper explores some areas where both LIS and KM can contribute to each other and encourages KM implication in LIS education and library practices. Knowledge management (KM) has emerged as a further significant influence on library practice

***Keywords*:** Knowledge management (KM); library and information science (LIS); KM skills and competencies; relevance

Knowledge Management

Knowledge Management is the systematic and explicit management of knowledge. The term knowledge refers to an aggregate of information, but knowledge is more meaningful, intelligible and usable than information. Knowledge Management is the process of identifying, collecting, preserving and transforming information into knowledge that is readily accessible in order to foster innovation and improve the performance of the organization.

It is concerned with that body of knowledge relating to the origin, collection, organisation, storage, retrieval, interpretation, transmission, transformation, and utilization of information. . . ". Because of the interdisciplinary nature of both information science and librarianship, the theories and techniques of a number of disciplines

KM and LIS Professionals

Knowledge Management as the creation of system or processes in a learning environment that allow librarians to have access to the information resources they need to develop the knowledge necessary to do their jobs. Those resources may be data that has been collected and stored in a database or knowledge that librarians have developed and stored in memory. Many Libraries are rushing to purchase and implement a variety of knowledge management tools (databases, groupware, web technologies, etc.) in an effort to reap the benefits of Knowledge Management.

Skills and competencies needed for knowledge management

Knowledge management activities are aimed at facilitating the creation, capturing and acquisition, sharing and utilization of knowledge. The successful implementation of such knowledge-enabling initiatives in the workplace requires the knowledge manager to apply several skills-sets (TFPL, 1999). In the perspective of libraries, there is a need for librarians to extend their expertise. The transformation from librarian to knowledge manager is clearly underway (Church, 1998). However, this impending shift of incorporating knowledge management in the library activities requires a great deal of preparation. Bishop (2001) pointed out that the challenge for the information professional lies in applying competencies used in 'managing information' to the broader picture of 'managing knowledge'. The greater challenge is managing the know-how of organizational members, which they acquire through years of experience.

Teng and Hawamdeh (2002, p.195) summed up the skills needed by the information professional in a knowledge-based environment:

- IT literacy, that is knowing how to use the appropriate technology to capture, catalogue and disseminate information and knowledge to the target audience and knowing how to translate that knowledge into a central database for employees of the organization to access;
- A sharp and analytical mind;

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- Innovation and inquiring;
- Enables knowledge creation, flow and communication within the organization and between staff and public

Processes Knowledge Management

- Detection Knowledge Organization
- Discover new knowledge
- Accessing knowledge from external sources.
- Presenting knowledge in digital form
- Embedding knowledge in processes, products or services.
- Transferring existing knowledge around an organization
- Facilitating knowledge growth through culture and incentives.
- Measuring the value of knowledge assets and the impact of knowledge management.
- Assessment Knowledge Sharing

Challenges facing librarianship in the new era

The LIS literature is characterized by speculation about the future of libraries and librarianship. Technological advances, and particularly the development of the internet and the World Wide Web, have changed the face of librarianship and have posed serious questions for libraries and LIS professionals. The availability of user-friendly databases, search engines and the impact of phenomena such as google.com has to some extent resulted in disintermediation, with, for example, questions being asked about the need for LIS professionals for retrieving information. Among People have come to believe that they can find everything through the web. is the increasing amount of freely available information, something that has resulted in changes to information behavior.

The fifth law of library science expounded by Dr Ranganathan states: „the library is a growing organism". In practical terms today this means: „honour the past and create the future" (Gorman 1997, n.p.). More than fifty years ago, Butler (1951) observed that librarians had a responsibility for the promotion of wisdom in the individual and in the community.

The knowledge based economy and the role of Resources Centre and Professionals

In an increasingly knowledge-based economy, the principal asset for organizations in both the private and public sectors is knowledge. Therefore, organizations place great importance on the acquisition, creation, diffusion and use of information and knowledge. Developments lend support to claims that libraries can play different roles in today's knowledge-based societies. While libraries and information professionals are relevant in today's society, the challenge to remain as relevant as other information providers is indeed formidable, and remaining relevant demands change (Watstein & Mitchell 2006). In order to do this, librarians need to identify the parts of their coremission that will be sustainable in a changed environment (Besser 1998, cited in (Varaprasad 2006).

The International Federation of Library Associations (IFLA) has called upon libraries to act as a dynamic engine for the knowledge and information Society.

Theory and practice

Some concepts and theories including classification/taxonomies, codification, metadata, indexing and abstracting, records and document management, information storage and retrieval, system design, database management, IT management, networking and resource sharing, etc.,are more or less common in the curriculum of LIS and KM.IM aspect of LIS is being practiced in KM in terms of identification, acquisition, capturing, processing/organizing, storing, retrieving, and sharing/transferring, and utilizing explicit knowledge.

Conclusion :

We have observed an ambivalent attitude about the relationship between KM and LIS. Some support that KM as a field of LIS has been practiced by librarians for a long time.LIS activities are seen just as a part of KM process. Certainly, LIS professionals can play major roles in KM librarians are described variously as "knowledge managers", "knowledge navigators,"

"knowledge innovators", "portal designers" and "knowledge officers", etc.LIS professionals must attain both theoretical and practical knowledge, skills and competencies that are needed for collaboration, sharing, innovation, problem solving and decision-making in KM environment.

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A study of Library Services in Sardar Vallabh Bhai Patel University of Agriculture and Technology (SVP), Meerut, (U.P.)

Sonu Kumar* & Jyoti**

Abstract

This study examines the library services in Sardar Vallabh Bhai Patel University of Agriculture and Technology (SVP), Meerut, (U.P.). The present study demonstrates and elaborates the various aspects of library collections uses within the available resources, frequency and purposes of visit, user satisfaction within library services. The study also focuses the personal assistance used by the respondents, major problems that hinder you from using the library, Satisfaction with infrastructure facilities etc. Conclusions of the study are given at the end of the article.

Keywords: Library services, SVP University, Meerut, U.P. , Technology.

Introduction

Sardar Vallabh Bhai Patel University of Agriculture and Technology established as a full-fledged University has unique honour of being called " **First Agriculture University of the third millennium and the 21 st century** ". It is committed to a unique mandate of integrating education research and extension so as to serve the rural people.. The University was established on 2nd October 2000 under Uttar Pradesh Agriculture University Act (revised) 1958 gazette and notified vide 3204A/X12-8-2000. It was inaugurated on 28 th March 2002 by the Honorable Chief Minister of Uttar Pradesh. It is recognized and funded by U.P. Govt. & ICAR, Govt. of India. It is included in the list of recognized Universities maintained by the University Grants Commission (UGC), Govt. of India.

The U.P Government has given the responsibility of all around development of the agriculture and rural community in its four divisions i.e Saharanpur, Meerut , Moradabad and Bareilly which consists of 15 districts i.e Saharanpur ,Muzaffarangar ,Meerut ,Gautam Buddha Nagar ,Ghaziabad , Bulandshahr, Baghpat, Bijnor, Jyotiba Phule Nagar, Moradabad, Rampur, Bareilly, Pilibhit, Baduan and Shahjahanpur. The state of U.P has 09 agro-climatic zones in which 03 fall under the Jurisdiction of this University.

University library has adopted open access system with card catalogue (author, subject & title wise) and DDC it is planned to expend computerization of the activities in the library. The library is kept open from 8.30 am to 6.30 pm on all working days . The books are issued to faculty members and students for definite period. The rules for library services are followed strictly.

Library Services

Library is essentially a service institute. The traditional function of library service involves a variety of activities on the part of the library. Many People believe that library service is all practice and no theory. It is not a very happy position and contrary to the developing situation. Knowledge advances through generalizations, abstraction and qualification (subject to measurement and predictability). There have been certain attempts in this direction in recent years. The potential is very great, because the future of library service is closely allied to the developments in the field of information science and the very definition of information as a concept. It is possible to identify fine key a aspects for the provision and use of library service to ward formulation of the theory of library services.

Broadly speaking there are two areas which underline the services and facilities which should be made available to readers: the circulation service and the reference and the information service. Technical and supervisory staff of the university library is to enable the service personnel to meet the instructional and research requirements f the faculty members and student.

Objective of the study

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1. To know the actual situation of the SVP agriculture university, Meerut.
2. To determine the satisfaction of the user regarding library services.
3. To determine the collection of the library that library has right book for right reader.
4. To find out how many e- journals are used in their own discipline.
5. To know which reference sources are being provided by the library.
6. To know the opinion of the user about library staff.
7. To find out the awareness of staff regarding the various information services.

Review Literature

In his study on information needs of faculty and research scholars at CCS University in India, Kumar (2009) found that most users visit the library to borrow books, study, search for information, or reading. The purpose of their visits depends on time available and needs. Most users depend on publisher's catalogue, bibliographies, indexes, abstracts, or book reviews to keep current in their area of study. Internet, e- journals and CD- ROMS are used less often due to the lack of availability of thesis resources as well as personal skill to use them.

Swain and Panda (2009) observed that faculty members prefer using e- articles over electronic theses and dissertations. Some online databases like emeralds management, EBECO and PROQUEST are fairly in use while other online databases are not of high demand in general, the majority of faculty members are in favor commercial e- services.

Methodology

The categorization of the proposed investigation into a certain type of research a corresponding method or methods desired for it and appropriate techniques for collecting and analyzing data are together know as methodology.

There are several techniques for collecting data are available for the users and staff studies such as questionnaire method personal interview telephonic interview and observation. For this study the investigators used questionnaire observation and informal interview for the collection of data.

Data Analysis and Findings

100 library users were randomly sampled to find out their Opinions about the services provided by the library.

Table – 1, General Profile

S.No	Category	Details
1.	Name of University	Sardar Vallabh Bhai Patel (SVP) University of Agriculture & Technology, Meerut
2.	Year of Establishment	Oct. 2000
3.	Location	Near Potato Research Centre Modipuram, Meerut

These tables furnish all the information of the SVP University, full name is sardar Vallab Bhai Patel (SVP) University and it is established in 1985. Situated in near Potato Research Centre Modipuram, Meerut.

Table – 2 : Library Profile

S.No.	Category	Details
1.	Library Name	Central Library, SVPU
2.	Year of Establishment	Oct. 2000
3.	Working hours	8.00am-8.00p.m.
4.	Status	Agriculture

Table – 2 Shows the general information about library, such as library names establishment year and working hour of the library.

Table – 3: Staff

S.No.	Category	Total No.
1.	Professionals	2
2.	Semi Professionals	-
3.	Non Professionals	2

Table – 3 presents that total no. of staff in the library. It shows that in the library, no. of professional (2) Semi Professional (Nil) and Non Professional (2)

Table – 4: Student Table

S.No.	Category	No. of Student
1.	Total No. of Student	880
2.	UG	380
3.	PG	380
4.	Research	20

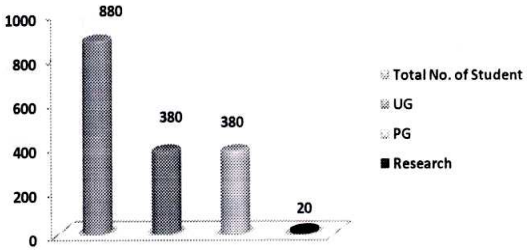


Table – 4 Shows the no. of total student is 880, UG Student is 380, PG student is 380, and Research Students is 20.

Table – 5: Visit to the Library

S. No.	Time	No. of Respondents	%
1.	Daily	70	70
2.	Twice a Week	15	15
3.	Weekly	6	6
4.	Forthrightly	4	4
5.	Monthly	5	5
6.	NR	0	0
	TOTAL	**100**	**100**

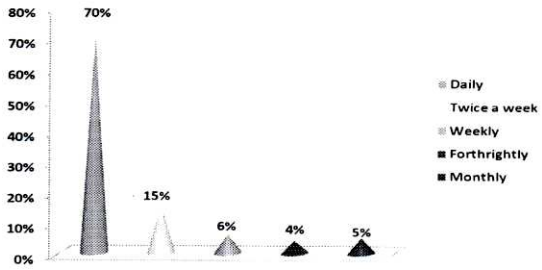
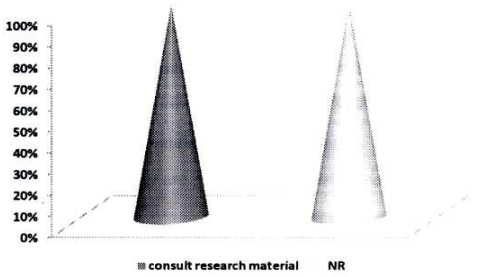


Table – 5 shows that 70%, users visit the library daily further followed by 15%, users visit twice in a week and 6% users visit weekly, and 4% users visit the library fortnightly, and 5% users visit the library monthly.

Table – 6: Purpose of use of Library

S.No.	Time	%
1.	Borrow & return the books	65%
2.	Read Newspapers & Magazines	5%
3.	Consult reference book	4%
4.	Read general books	4%
5.	Read Subject books	7%
6.	Prepare for next class	No
7.	Chat with friends	No
8.	Consult Research material	13%
9.	NR	1%
	TOTAL	**100**



The respondents were asked to indicate their purpose of use of library by SVP University. It is evident from table 11 that 65% borrow & return the book, 4% read newspapers & Magazines 4%, consult reference book 4% Read subject book 2%. Research material 13% of the respondents also admitted that they use library purposes.

Table – 7: Essential Services

S.N	Categories	Resp.	
1.	Reading room facility	Yes	
2.	Circulation facility	Yes	
3.	Provided reading materials tothe need of staff.	Yes	
4.	Catalogue help	Yes	
5.	Classification help	Yes	
6.	Help in search document	Yes	
7.	Help in handling computers based information	No	

Table – 7 provides the information regarding all the essential services like reading room facility, circulation facility, provided reading materials according to the need of staff readers catalogue & classification help, help in search of document. This central library are provides all essential services.

Table – 8: Technical Processing

S.No.	Categories	Response
1.	Cataloging Scheme used edition/version	AACR & CCC Modified forms
2.	Classification Scheme used	DDC

Table – 8 shows that the Technical processing are used AACR & CCC Modified forms in cataloging scheme and the DDC are used in classification scheme.

Table – 9: Online Services

S.No.	Categories	Response
1.	Online Services	No
2.	CD Rom Search	Yes
3.	Online Search	No

Table – 9 Indicates that library provides CD Rom search.

Table – 10: Networking

S.	Categories	Response
1.	Library Providing networking Services	Yes
2.	Network Structure (a) LAN (b) WAN (c) MAN	Yes

Table – 11: Newspaper clipping Services

S.No.	Categories	Response
1.	Provide News paper clipping service	Yes
2.	(a) Weekly (b) Daily	Yes

Table – 11 Shows the weekly and daily news paper clipping services.

Table – 12: Inter Library Loan and Bibliography Services

S.No.	Categories	Response
1.	Library Providing Inter Library Loan	No
2.	Library Providing service Bibliography	No

Table – 12 shows that there is no ILL Service and no bibliography service for student & research scholars.

Table – 13: Current Awareness Services

S.No.	Categories	Response
1.	Organized display of current	Yes
2.	Books	Yes
3.	Periodicals	Yes
4.	Other materials	Yes
5.	Bring Out (as bulletin)	Yes

Table – 13 CAS provides are these source as book, periodicals other materials.

Table – 14: Other Services

S.No.	Categories	Response
1.	Library Providing Reference Services	Yes
2.	Library Providing SDI Services	No
3.	Library Providing Abstracting Services	NO
4.	Library Providing Indexing Services	No
5.	Library Providing Translation Services	No

Table – 14 shows that reference service is providing to the users and SDI, Translation, Indexing service is not providing to the users.

Conclusion

The study sought to analyze the use of the library services of central library of Sardar Vallabh Bhai Patel University of Agriculture and Technology, Meerut, (U. P.). The main motive of the survey is to find out the services which are being provided to the users.

Most of the objectives are satisfactory and most of the users are using library available library services which are comparatively difficult because it depend upon the type of work of library. General books, text books, reference books, and news paper are mostly used by the library users as a result of mutual understanding between librarian and library staff. The library provides many different services like reservation of materials reference, current awareness , photo copy etc. to library users.

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Collection Development Policy of Library Tibetan Works and Archives (LTWA) Dhamashala Himachal Pradesh: A case study

Sangeeta Dharade*

Abstract

This paper mainly deals with the activities of collection development of LTWA library. Discusses the growth of Tibetan manuscripts, books, artifacts and works of art. at LTWA library since its inception. It also highlights the user involvement in acquisitions of reading materials, allocation of budget and vendors Competitiveness.

Key words: Collection Development, collection Policy, LTWA Library, Library Collection,

Introduction:

Collection development is a dynamic and continuous activity. It involves the users, the library staff, and the subject experts on selection team. It is not an end in itself, but a means to develop a need-based, up-to-date, and balanced collection fit to meet the document and information needs of the users. The purpose is to assist the librarians and information scientists in the task of collection building so as to develop a need based, balanced and up-to-date collection of all types of documents fit for meet adequately the document and information needs of the users. Various Policies involved in collection development at Library Tibetan Work & archives are:

- Analysis of the information needs of the users;
- Formulation and implementation of selection policy to suit the objectives of the library;
- Acquisition programmes to build-up a balanced collection;
- Resource sharing and its impact on collection development;
- Weeding out programmes to ensure effectiveness of collection;
- Competitive vendors profile and rational budget; and
- Collection evaluation

LTWA an Introduction:

The devastation formed by the Communists Chinese invasion of Tibet in 1959 has rendered the existence of Tibetan culture in peril. Scores of learning centers, ancient manuscripts, artifacts and countless other aspects of Tibetan cultural heritage have either been plundered or destroyed under the garb of modernity. Realizing the impending threat and precariousness of the situation His Holiness the fourteenth Dalai Lama conceived of and founded the Library of Tibetan Works & Archives to restore, protect, preserve and promote the culture.

The LTWA was set up in 1970 and registered under the law of the host country and started functioning with meager resources. Over the years it has made steady headway in a variety of developmental works firmly establishing its credibility. Today, the LTWA is one of the premier institutes in the world specializing in Buddhist and Tibetan studies, providing a comprehensive resource and attracting increasing number of scholars, researchers, students and visitors from across the globe.

In 1991, the institute was recognized as Centre for Tibetan Studies by Himachal Pradesh University, Govt. of H.P. Five years later the Assembly of Tibetan Peoples' Deputies (Exile Tibetan Parliament) accorded the LTWA the combined status of National Library, National Museum and National Archives. In 2006, the National Manuscripts Mission, an initiative of the Government of India, appointed the institute as one of the National Manuscripts Resource Centers.

Aims and Objectives:

- To preserve, promote and disseminate Tibetan culture
- To acquire, preserve and conserve Tibetan Books and Manuscripts

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- To provide reading materials and intensive reference services
- To provide and publish bibliographies and documentation list
- To provide, publish and supply copies of reference materials
- To act as a comprehensive reference centre for Tibetan studies.

The LTWA also serves as a repository for Tibetan artifacts, statues, manuscripts, Thangkas (traditional scroll paintings), photographs and a variety of other resources attributing to Tibetan culture. It is not only a library, a museum and an archive but also an academic institute where cultural and educational courses are offered regularly and where seminars, conferences, workshops and lecture series are held, providing wider avenues of learning and sharing the knowledge that help promote an environment fostering research and an exchange of knowledge among scholars, researchers, students and interested general public.

Library of LTWA

In the present age, rapid Advancement of information Technology and communication system has brought revolutionary changes in the organization and Management of information. the Library of Tibetan Works and Archive is a special Library. The LTWA Library is backbone of the institute. In the fast globalizing world, when everything is becoming knowledge-centric, one cannot undermine the role of Libraries in disseminating knowledge and information to the vast Buddhist community of knowledge-seekers. The library is operating in a highly automated environment. It feels good to see that the LTWA library has flourished as one of the key resource centers of the Institute.

LTWA library consist with 3 main divisions;

1. **Tibetan Books and Manuscripts Library**: Over 1 lakh Manuscripts and documents in Tibetan.
2. **Foreign Language Reference Library**: About 11,000 books in foreign language dealing with the Buddhism and Tibet related affairs.
3. **Audio-Visual Archive** : Over 27,000 of records on Tibetan culture, Buddhism etc. & 10,000 Photographs, Negatives and Slides of Tibet.

The primary objectives of the *LTWA* are to provide a comprehensive cultural resource centre and to promote an environment that encourages research and an exchange of knowledge between scholars and students. These factors are of the utmost importance in a contemporary world shaped by political and spiritual confusion. In trying to fulfill its objectives, the Library's priorities include:

- Acquiring and conserving Tibetan manuscripts, books, artifacts and works of art.
- Providing access to books, manuscripts and reference works (in Tibetan as well as in foreign languages) in study areas within the Library.
- Compiling bibliographies and documentation of Library holdings and related literature available worldwide.
- Providing copies and prints of Library holdings and acting as a reference centre for such source materials.
- Publishing books and manuscripts under the Library imprint.
- Supporting research and study of the Tibetan language, both classical and modern.

Definition & Purpose

Collection Development is defined as the planned purchase of materials in various formats to match the instructional and research needs of the campus within the current fiscal environment and resource sharing opportunities. The heart of a library is its collections. The buildings house them; the library personnel acquire and manage them and teach users how best to access and use them.

The processes of Collection Development include selection and deselection of current

and retrospective materials, including gifts-in-kind; planning of coherent strategies for continuing acquisitions; input into preservation decisions; evaluation of collections to ascertain how well they serve user needs. These functions are guided by a Collection Development Policy which establishes priorities, supports efforts, and facilitates decisions. It communicates the Libraries' intentions to the library users and aids in cooperative efforts with other libraries. The information explosion coupled with tightening budgets requires selectors to look at ways to access resources in ways beyond physical ownership, including licensing electronic databases and providing document delivery.

Purpose of the Collection Development Policy (CDP)

This CDP is a planning document, which identifies the long and short-term collection goals and polices of the **Library Tibetan Work & archives** Library. It provides a general framework for the development of all parts of the collection. The CDP is a dynamic document and will be updated or amended whenever necessary. The major objectives of the CDP are: To establish guidelines for the selection of resources so that acquisitions are appropriate to the general objectives of the Library.

- To set standards for the inclusion or exclusion of resources in the collection.
- To establish guidelines for the retention and preservation of resources in the collection.
- To assist Library staff in planning and administering the Library budget.
- To establish guidelines for consortia acquisition and interlibrary lending activities among UGC-subverted institution libraries.
- To inform users and other libraries of the nature and scope of the collection.

Review of Literature-:

Heintze (1963) 7 observed that selection of books for the Library collection is one further stated that: The general principle of book selection which applies to both the small and the large Library is to build up a Comprehensive and balanced stock with enough material on a variety of subjects to satisfy the need and interest of all the people in the community. **Foot (1996)8** suggested that the management of library collection and archives should be the determined by the aim and purpose of the library or repository and suggested that standard for the storage and maintenance of collection must take into consideration: the prevailing climate; social and financial circumstances; nature of existing buildings; purpose of the collections; security file risk; chemical and physical deterioration. **Johnson (1996)9** examined the problems of inadequate space in libraries as a result of ever-growing collection. He dismissed suggestion on acquiring less material or switching to electronic collections as solution to the problem. He however stressed that collection management policy should guide all decisions on transfer to storage and withdrawals. **Ifidon (1997)10** in his work on "planning for collection development in the twenty-first century" observed that many prediction about future improvement for libraries in Nigeria have been optimistic and with little real foundation. He compared data on collection development for books and periodicals from 10 Nigerian University libraries with other African and United Kingdom University libraries and concluded that Nigeria systems have a long way to go to reach desired levels. **Ifidon (1996)11** stresses that a focused, positive and consistent collection development strategy is a necessity for any meaningful library development. **Ochogwu (1996)12** also reinforces this view. **Eguavoen (2002)13** . **Ochai (2002)14** define collection development as a planned, systemic development of a collection, based on the objective of the library. It is the totality of activities with lead to building up a total library collection.

Objectives of the study

This study has been conducted to current situation of the Library of Tibetan Works and Archives in Dharamashala, Himachal Pradesh. The specific objectives of the present study were to know the collection development policy of the LTWA collection development principals of the libray, The libray selection process, Aquisiton process of library, Problems in the collection development policy and the prospects and the future of colletion development of LTWA.

Purpose of the Policy

The purpose of this policy is to outline and articulate the principles that govern the development and maintenance of collections at Library of Tibetan Work & Archives Library. The policy describes the current collection, outlines objectives, delineates roles and responsibilities, and addresses issues from selection to resource allocation to consortia arrangements with other libraries.

Library material collected includes:

• Print materials (monographs, serials, deluxe editions, rare books and serials,newspapers, action sales catalogues, exhibition catalogues, catalogues raisonnés,theses and ephemera);

• Manuscripts and private archives;

• Pictorial materials (posters, photographs);

• Electronic resources (full- text databases, reference materials, digitized materials);

• Microforms;

• Audiovisual materials (cassettes, film and video recordings

Findings and Discussion:

Collection Development Principals of the Library:

It is observed that the library strives towards acquiring comprehensive information sources for the use of staff and students but certain factors such as paucity of funds and storage facilities impede this desire. The selection process, in order to aquire broadly and in depth, is guided by the following principals:

1. Selection of information sources are based on the recommendation of the staff, subject specialists in the library, Director and librarian.
2. Information sources are selected for each members of the institution, and students based on the courses.
3. Selection of information sources is proportional to the population of the users in each department.
4. Consultation with selection committee on final selections of information sources, and
5. Reference to information sources selection tools like reviews, bibliographies, subject guides, publishers catalogue, books in prints, periodical index etc.

The Library Selection Process:

The selection process starts with the request for book and journals form staff and students of the Institution, and publishers and dealers deposit of their catalogues with the library for patronage. These requests are compiled together during which the request for books and journals are separated and each of them forwarded to their respective sections for processing. The list of requested information sources are then dispatched faculties to obtain recommendations.

Upon the receipt of recommendations from the faculties and staff, the recommended materials are checked against the stock of the library. The essence of this is to ensure that what are being recommended have not been acquired of ordered for.

The Library Acquisitions Process:

Acquisition of IS into the library are through the combination of the following: Purchase, Gifts/Donation and Exchange. Acquisitions of information sources through purchase, although on relatively small scale, is the steady and regular method through which the library develops its collection. These are being done following the established procedures, to ensure consistency, prudence and accountability. The procedures, involve

entering all selected sources on order form. The prepared order is then is sent to the publisher or book dealer to supply the specified number of copies of each title listed in the order. At the moment, the library usually places order for copies of each selected title.

When ordered materials arrive at the acquisition, the supplied materials are matched with relevant invoices and order list to ensure that the materials received are actually the ones ordered and that they are in correct quantity, and in good condition. The materials are then stamped with the library's ownership stamps. During stamping, emphasis is placed on the title page, back and the three edges of a book.

Accessioning of the material is also done at this stage. The library's accession stamp, which has paces for accession number and location mark (classification mark), are placed at the verso of the title page. Accession number given to each of the newly acquired materials is written on the space provided in the accession stamp. Location mark is entered at the Technical Services Division of the library. Furthermore, bibliographic data about each of newly acquired information sources are recorded in a form called Accession List.

The Library Problems on Collection Development Practices

Selection of material is not a simple process. This is an art of great intellectual and technical service. There are problems militating against the smooth collection development practices of the library which are identified in the course of this study.

Specific problems identified with LTWA library collection development practices are absence of information and communication technology equipment and epileptic nature of power supply. The Library functions and services are not fully automated; consequently, all the activities involved in collection development are done manually. Hence it takes a considerable period to verify availability or otherwise of an information sources in the library collection.

Inadequate fund for books and serials purchases have made the library to reduce drastically its purchases of foreign books from overseas dealers, and subscription to foreign journals. The library has now limited its acquisition of books to locally published ones, and foreign books and journals that can be obtained from local bookshops, publishers and agents. Also, as a result of finance problems, several lists of selected books and journals are available at the collection development division of the library waiting funding.

The most of the institutions library are facing a number of problems in collection development as follows;

1. Information Explosion:
2. Approval plan
3. Literature scatter
4. Rising cost of documents
5. Widening gap of cost between hard bound and paper back publication.
6. Devaluation of Rupees value in the International market.
7. Technological revolution
8. Lack of standard book selection tools
9. Declining business ethics in book trade. Etc.

Conclusion

It is reiterated that acquisition function is basic to all other library activities. Collection development signifies the quality and performance of a library. This applicable to LTWA library also.

Information technology has made access to Information easier, in the sense that all digital information, such as databases, full text journals etc. can be accessed through computers on the network both at work and from home. E-collection building and management are such initiative task. The libraries planning for e-collection building should first formulate a policy as guidelines for the same. Secondly they should develop Local Area Networks. Also adopt a proper method for long term preservation of the collection for future use and access.

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The Virtual Library: vision and reality

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Abstract:

The Virtual Library will extend the libraries most significant services and deliver critical research collections beyond the walls of the libraries to the desktop of users. The Library will strive to archive and preserve these collections for future generations. The virtual library focus on meeting the existing and emerging needs of the faculty staff and students virtual library provide a new way of serving the new generation of the library users, virtual libraries are the new vision of libraries of the future. This paper provides Virtual Library system, definitions, history, purpose, characteristics, technology, functions advantages and disadvantages.

Keywords: Virtual Library, Digital Library, E-learning, WWWVL, VL

Introduction:

The World Wide Web Virtual library was the first index to content of WWW and still operates as a directory of e-text and information sources on the web. It was started by Tim Berners-Lee, the creator of HTML and WWW itself, in 1991 at CERN in Geneva. The concept of the virtual library is attracting increased attention because of the burgeoning medium called the WWW. Some technology circles regard the virtual library as the single most comprehensive and valuable source of information in the world and the inevitable replacement for the traditional library.

The virtual library is so perfectly created and highly stimulated that one site as well as off site that are available in a virtual reality environment and accessible electronically through the internet at any time from any geographical location. Such type of library only exists in the networked environment, without the physical existence of books or journals on the shelves Virtual library is another kind of Digital library which provides portal to information that is available electronically elsewhere. This is referred so to emphasize that the library does not itself hold content. Librarians have used these them for a decade or more to denote a library that provides access to distributed information in electronic format through pointers provided locally.

Definition of Virtual Library

The term has been defined by many different people in many different ways

Kay Gapen's (1993) defines the Virtual Library as "The concept of remote access to the content and services of libraries and other information resources combining an onsite collection of current and heavily used material in both print and electronic form, with an electronic network that provide access to an delivery from external worldwide library and commercial information and knowledge sources"

Powell (1994) defines Virtual Library as "It is a library with little or no physical presence of books, periodical reading space or support staff, but are not disseminate selective information directly to distribute library customers usually electronically".

Michael Schuyler (1998) defines Virtual Library as "If the electricity goes off, the cold goes away and so does the Popsicle, leaving a soggy smear on the shelf where some things substantial once resides. The virtual library suffers the same vulnerability and the same precarious existence"

Wikipedia (2005) "Virtual Library means library without walls. The resources are available in digital format; there is no paper, microforms etc. The resources are locally held or accessed through computer networks"

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Another definition of a virtual library is synonymous with a digital library.

History of the Virtual Library:

The Virtual Library did not arise out of the internet it's been evolving since the 1960. By the mid-1970's full text databases had been developed, and the legal community was quick to integrate them into their research operations. By the 1980's the success of these ventures resulted in OPAC's replacing traditional card catalogue in many academic, public and special libraries. The virtual library was first conceived and run by Tim Berners Lee and later expanded, organized and managed for several years by Arthur secret, before it became a formally established association with Gerard Manning as its Councils first chairman. The late Bertrand Ibrahim was a key contributor to the pre-association phase of the virtual library's development and then served as its secretary until his untimely death in 2001 at the age of 46. The virtual library has been growing for the years, so that there are now around 300 sub libraries with in the main library.

Purpose of the Virtual Library:

Purpose of a virtual library is to underpin learning and acquisition of knowledge. Virtual library provides remote (on-line or CD-ROM based) access to a variety of National and International content (e.g. curricula, learning materials, books, Journals, magazines, newspaper services traditional offered by libraries and other information sources virtual library thus combine material in electronic format with an electronic network which ensures access to and delivery of those material.

Characteristic of Virtual Library:

The main characteristics of virtual library are as follows:

i) Information sources should be stored in 3D format, electronically.
ii) Library staff should be able to work in the library from any geographical location.
iii) Library services such as union catalogue, OPAC, CAS, SDI etc should be available at the user desktop itself.
iv) All resources should be accessible over internet with effective searching, Browsing and Navigation options.
v) The library should be integrated with Bulletin Board Blog, e-mail, voice mail, e-list, Audio Conferencing, Video conferencing services.
vi) Constant training and retraining must be imported both to the library staff as well as library users to talk with the newly emerging technology.
vii) It may or may not have a physical existence.
viii) It provides speedy and wide access to updated information in a global manner
ix) It has changed the traditional library system of cataloging only book material
x) Cataloging of Non book materials include not only databases but also websites.
xi) Greater emphasis is on access and not on collection.
xii) Time saving.

Sherwell (1997) describe the characteristics of Virtual Library:

- There is no corresponding physical collection.
- Documents will be available in electronic format.
- Documents will not store in any one location.
- Document can be accessed from any work station.
- Document are retrieved and delivered as and when required.
- Effective search and brose facility are available.

Technology behind Virtual Library:

Creation of virtual libraries involves use of highly sophisticated technology that includes –

i) Use of multimedia material for information storage
ii) Use of 3D sound 3D Graphics, 3D Photo etc.
iii) Use of voice message, Audio conferencing, video conferencing etc.

by the library staff as well as library users.

iv) Origin and development of PC with VR technologies attached.

Functions of a Virtual Library:

The function of a virtual library is to ensure the systematic development of the means of collected, stored and organized information and knowledge in digital forms and to provide easy and affordable access to it around the clock from various locations a virtual library should

i) Provide ICT based access to a range of digitally available publications for educational purposes available in the public domain and from other sources.
ii) Provide access to distance education material.
iii) Contribute to the efficient delivery of information to students, researchers and teachers of educational Institutions.
iv) Offer lifelong learning opportunity.

Advantages of Virtual Library:

There are many advantage of virtual library. Some of the advantages are following:

i) Virtual Library provides immediate access to a range of resources not available in physical collections.
ii) Virtual libraries are available anytime and anywhere, where there is an internet connection.
iii) Virtual libraries offer opportunity for learning that is not possible in their physical counterparts.
iv) Virtual libraries often contain more up to date information than physical collections.
v) Well-designed virtual library collections are organized and managed to increase productivity and efficiency of the users.
vi) Virtual libraries empower the user and promote informal learning.
vii) Virtual libraries can be customized for particular schools, grades and subjects.
viii) Virtual libraries break down the physical barriers between users and information sources.

Virtual libraries setup will provide following advantages to the administrators

- It saves and or reduces the physical space taken up by library materials.
- It allows for the inclusion of material only available on the internet or in digital format.
- Reduce work stoppage.

Advantage of Virtual Library for Library staff:

- No physical constraints of work place.
- Own boss.
- Everything is formal.
- Direct communication through voice mail, video conferencing.
- It often adds enhanced searching capabilities in a digital format.
- It eliminates the problem of missing books or off the shelf.
- It is less labor intensive.

Library Users will have the following advantages:

- The library material is available at the user's desktop regards of where the user is physically located.
- It provides the user with the capacity to download and manipulate text.
- It often allows for multiple concurrent users.
- Distance education.

Disadvantages of Virtual Library:

Some of disadvantages of virtual library are.

1) Every product has its own distinct user interface.
2) User need to remember different passwords for different products.
3) The scope of coverage and available archives in often limited.
4) Sense of not belongingness.
5) Fear of job loss.
6) Demand more dedication for library staff.
7) There are often difficulties with downloading or printing.
8) Often there is no cost savings, especially when both the virtual and print product is maintained.
9) Everything is not available in digital format.

10) There are restrictions which vary from vendor to vendor on how the product can be used.
11) The virtual library relies on power of computer networks in order to be available for use.
12) Users can't spread everything out in from of them and use it all at once.
13) Users are most comfortable using books.

Conclusion:

The word "Virtual Library" is displayed in different kinds of library websites but in reality a true virtual library is yet to be set up. But when it will be implemented, it will help to extend the sense so distantly that anyone can learn or manipulate the things in reality. It will help us to build a library environment that will be similar to our physical library but will be accessible from distant location; one can just see the library just like using a microscope or telescope. Virtual library can be very useful and very diverse in what they contain. The options for what they can include are virtually endless, and become more and more boundless as technology advances.

Virtual Library is the new vision of the library of future the development of virtual library will take place when libraries transform themselves into their dimensional electronic information centers. It will be possible when data storage, data representation and image processing technologies mature to scope with the great amounts of graphically represented data held by virtual libraries. Virtual library has to support the user's community, by providing accurate reliable and affordable access to all the desired scholarly and educational electronic/internet resources.

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Institutional Repository: An Overall View

Varsha Sahu* & Anamika Shrivastava**

Abstract :

Technology is moving very fast for more and more dissemination sharing of information. Various assets have been developed for collection, preservation and dissemination of information. Institutional or Digital Repository is one of the assets for this purpose. IR is an online resources or place for storing academic materials such as thesis, dissertation & research articles concerned with a particular university or institution Digitization of information provides preservation of digital content for long time so that it can be used by researchers. Institutional Repository is a digital archives system for an institution. It collects, preserve and disseminate the research work of institution worldwide. This paper brief discuss about the concepts, various types of Institutional Repositories and Institutional Repositories software and finally Institutional Repositories in India.

Keywords: Institutional Repository (IR), History of Institutional Repository, Types of Institutional Repository software, Institutional Repositories in India

Introduction:

Institutional Repository is concerned with the personal data collection of researches, thesis, synopsis dissertations, and intellectual output of an institution, particularly a research institution or university. It facilitates the preservation, dissemination and sharing of the research work done by a community or institution worldwide in the form of digital contents. Institutional Repository works on web based and accessible nationally and internationally. A university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. Repositories often have no limitations on the types of publications or types of data that can be held, so these can range from peer-reviewed journal articles to grey literature, data sets, theses, and teaching materials. Open access repositories are becoming more and more developed; there are also closed access repositories in which access to some material is restricted because of confidentiality and related issues.

A repository is a 'store where electronic data, databases or digital files have been deposited, usually with the intention of enabling their access or distribution over a network' (Polydoratou, 2007).

The Libraries' definition of an Institutional Repository is "a set of services that will allow IU faculty to deposit, distribute, and preserver their scholarship that is in electronic form. Such a repository could include any type of scholarly material, such as datasets, working papers, prepublication scholarship, and published works."

Finally, an institutional repository is an online location for collecting, preserving, and disseminating - in digital form - For a university, this would include materials such as research journal articles and digital versions of theses and dissertations, but it might also include other digital assets generated by normal academic life, such as administrative documents, course notes, or learning objects. Institutional Repository software is typically web-based and can serve as the backend for specific databases.

History of Institutional Repository

The History of Institutional Repository is not very long as it was initiate along with the World Wide Web.

- ***Early History and First Institutional Repository*:**

In the early history , first Institutional Repository named as "arXiv –pronounced archive" was came into existence in 1999 by physicist paul Ginsparg at los Alamos national laboratory in new Mexico .this was concerned with physics only .at present its current home is Cornell University in Ithaca, New York, where it has been since 2001.

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- ***Later and Open Achieves:***

With the advancement , it included more subjects like mathematics , computer science and later on various Institutional Repositories came into existence with such as Repec or Research paper in economics , CogPrints and Education Line computer education in 1997 and started open archives in 1999 which enables Institutional Repository to operate together which is known as interoperability.

Indian History of Institutional Repository:

- In March 2003, in response to issues in scholarly communication, open access, and institutional repositories, the Dean of IU Libraries formed an Institutional Repository Working Group consisting of Deans and Directors from Bloomington and Indianapolis, and began watching emerging technologies and developing policies and strategies
- In 2004, the Dean charged the Associate Dean for Collection Development and Digital Scholarship with coordinating the development of an Institutional Repository
- The groups first task was to choose among the emerging providers of IR software in the field to use in the pilot program, and if proved worthy of the task, to use as a production IR

Objectives of Institutional Repository:

The four main objectives for having an Institutional Repository are:

1. ***Self Archive*:** It provides self archiving of research data of particular institution. It provides open access to institutional research output by self archiving.
2. ***Global sharing of institution*:** Institutional Repository collects the digital content of research papers, thesis, and dissertation. It share and disseminate institutional's scholarly research and accessible for the users globally.
3. ***Preservation:*** With the help of digitization, Institutional Repository preserves the various data for long time and easily accessible .it store and preserve other institutional digital assets, including unpublished or otherwise easily lost ("grey") literature (e.g., theses or technical reports).
4. ***Single Location:*** Institutional Repository collects content in a single location.

Requirements of Institutional Repository:

For establishing Institutional Repository, some requirements need to fulfill which are as follows:

1. Copyright.
2. Version control
3. Intellectual property rights
4. Lack of awareness in the academic community
5. Publishers' policies on deposition of published research into repositories

Current Status of Institutional Repository

There are currently almost 1300 repositories around the world. Over the past three years the number has been growing at an average rate of one per day. The statistics on numbers and where they are can be found in the Registry of Open Access Repositories (ROAR: http://roar.eprints.org/) and in the Directory of Open Access Repositories (Open DOAR http://www.opendoar.org/). There is also a mapped representation at Repository66 (http://maps.repository66.org/).
The Registry of open Access Repositories (ROAR) lists nearly 1500 institutional repositories available worldwide

Contents of Institutional Repository: It may be following

1. Peer-reviewed journal articles and conference proceedings
2. Research data
3. Open Access institutional repositories:
4. Monographs and books
5. Thesis and synopsis
6. Dissertation
7. Research-Related outputs such as presentations.

Types of Institutional Repository Software

Based on the needs and services of the repository, institutions will then want to assess the available software platforms. There are three types of options available:

Open Source Software: These type of software are available free of cost on internet. It is easy to download, but usually requires expertise for implementing and maintenance. A central governing body manages the source code, but it is open for changes and enhancements from the development community.

1. ***Commercial Software:*** You need to pay for such type of softwares as well as some subscription or consulting fees for updating. With a programming interface, or API, you can customize the software, but the software vendor owns, creates, and maintains the source code.
2. ***Software Service Model:*** A software vendor owns and distributes a software platform, or also hosts and manages your data for you. In this model, the software vendor provides additional services for a fee, and also controls and updates the software source code.

Software types should be selected and used according to the requirements of the institution like budget, Student work, collection etc. For example, institutions without significant technical expertise may want to look at some of the commercial services available. In terms of open source software platforms, each has its own unique strengths.

Below mentioned Table describing about details of some renewed Institutional Repository softwares:

Sr.	Name of Software	Types	Year	Website
1	Eprints	Free open source software	2001	www.epriynts.org
2	Dspace	Free open source software	2002	www.dspace.org
3	Fedora version 2.1 Current version 3.3	Free open source software	2005	www.fedora-commons.org
4	Berkeley Electronic Press software (Bepress)	Commercial	1999	www.bepress.com
5	SimpleDL	Commercial	1995	http://www.simpledl.com
6	CDS Invenio (formerly CDSware)	Free open source software	1991	*www.cdsware.cern.ch*
7.	Greenstone	Free	1995	http://www.greenstone.org/

Types of Repositories

1. ***Data Repositories:*** Data Repository is a logical (and sometimes physical) partitioning of data where multiple databases which apply to specific applications or sets of applications reside. For example, several databases (revenues, expenses) which support financial applications (A/R, A/P) could reside in a single financial Data Repository.
2. ***Institutional Repositories*:** This work for collect the data of particular institution. Many universities are developing their own repositories. Materials usually include journal articles, pre and post print, as well as theses and dissertations. Other types of material can be stored, such as teaching and learning objects.
3. ***Subject Repositories:*** It works for research output of specified subject. For example arXiv is a subject repository for the physical sciences. PubMed Central is for biomedical and life sciences research literature.
4. ***Learning Objects Repositories:*** These repositories can hold any item related to learning and teaching, from PowerPoint presentations to digital learning objects. A key feature is that metadata is stored as well the actual content, and the underlying principle of this type of repository is that content depositors agree that objects can be re-used. A range of licenses is offered so that content creators can set permissions of use and re-purposing.for example, Jorum is the UK's national learning object repository. Merlot is an American repository for learning materials. National Digital Learning Resources is the Irish learning object repository.

Institutional Repositories in India

Name of Institutional Repository	Institution	Areas
Digital Repository of IIT Bombay	Indian Institute of Technology , Mumbai	Conf/proceeding papers, tech.reports, journal pre & post-prints, working papers, Patents etc.
DRS@ino	National Institute of Oceanography, India	Collection of journal articles, conf. proceeding articles, Tech. reports, thesis, dissertations, pub. of NIO
DSpace@NITR	National Institute of Technology, Rourkela	Intellectual output of NITR, journal articles, pre-prints and conference papers authored by NITR researchers.
DSpace@MDI	Management Development Institute, Gurgaon	Collection of journal articles, conf. proceeding articles, Tech.reports, thesis, dissertations, pub. of MDI
DSpace at Indian Institute of Management Kozhikode	IIMK community	Preprints, post prints and other scholarly publications.
DSpace at National Chemical Lab., Pune	National Chemical Laboratory, Pune	357 documents of scientific nature
DSpace@INFLIBNET	INFLIBNET Centre, Ahmedabad	article published in the proceedings of the conferences and seminars, organized by the Centre
ePrints@IISc	Indian Institute of Science, Bangalore, India.	Research output created by the IISc research community
Digital Collections@INFLIBNET	Inflibnet Centre , Ahmedabad	UGC funded Research Project database of Sc., Hum., Eng. & Tec., Medicine and Agriculture.
ePrints@SVNIT	Sardar Vallabhbai National Institute of Technology	Digital format the research output created by the SVNIT community.
eGyanKosh	National Digital Repository , all rights reserved by IGNOU	Digital learning resources developed by the Open and Distance Learning Institutions in the country.
ePrints@IIT Delhi	Indian Institute of Technology Delhi	Digital repository of research and Electronic Submission of Theses and Dissertations.
ePrints@Catalysis	National Centre for Catalysis Research (NCCR)	research output created by the NCCR and also other catalysis research publications from India on behalf of the Catalysis Society of India (CSI)
ePrings@SBTMKU	School of Biotechnology, Madurai Kamraj University, Madurai	research output created by the SBTMKU
Indian Institute of Astrophysics Repository	Indian Institute of Astrophysics, Bangalore	Research collection of 3955 documents and being updated regularly.
Institutional Repository of National Aerospace Laboratories	National Aerospace Laboratories	journal articles, conference papers, technical reports, resentation/lectures, preprints, Thesis etc.
Kautilya Digital Repository of IGIDR	Indira Gandhi Institute of Development Research, Mumbai, India	Conference proceedings, thesis and dissertations and research articles, etc hosted at. It contains around 200 publications of the institute.
NISCAIR Online Periodicals Repository	NISCAIR	Full text articles from research journals published by NISCAIR. Collection of this repository is 2265 documents.
RRI Digital Repository	Raman Research Institute Digital Repository	Research publications of the faculty and students of the Raman Research Institute.
OpenMED@NIC	free service to academics, researchers, and students working in the area of Medical and Allied Sciences	peer-reviewed preprints, postprints (refereed journal paper) and accepted theses of Medical and Allied Sciences

Conclusion

In concluding this paper we can say Repositories and open archives are being established worldwide. An institutional repository Increases the institution's visibility, status and public value, improved research knowledge management of the researchers and anyone interested in scholarly outputs. From an institutional perspective it provides a record of scholarly activity taking place within the university. For a researcher, it creates stable and reliable records of their work, managed and stored in ways which meet international technical standards. Each item in the repository has a unique Internet address (called a Handle) and it can be found easily on major search engines. And finally, increased access to scholarly knowledge is a benefit to all. Nowadays, it is a trend of Institutional Repositories all around. Many of the Institutions have their Repositories which they have built on various open source software which provides freedom to operate the Repository as per your needs. This trend of Dissemination and sharing research resources should go on and on.

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DSpace : Make Your Digital Library

Rakesh Khare*

Abstract

In this article present a comprehensive view of DSpace for making a good digital library. Community development, the foundation of DSpace, the advantages and benefits of using the D Space. Formation and the structure of DSpace and so on.

Key Words: DSpace, Digital Library, Automation, Digitization, Library Software

Introduction

DSpace is a platform that allows you to capture items in any format – in text, video, audio, and data. It distributes it over the web. It indexes your work, so users can search and retrieve your items. It preserves your digital work over the long term. D Space provides a way to manage your research materials and publications in a professionally maintained repository to give them greater visibility and accessibility over time. D Space is typically used as an institutional repository. It has three main roles:

1. Facilitate the capture and ingest of materials, including metadata about the materials
2. Facilitate easy access to the materials, both by listing and searching
3. Facilitate the long term preservation of the materials

Benefits of using D Space

- Getting your research results out quickly, to a worldwide audience
- Reaching a worldwide audience through exposure to search engines such as Google
- Storing reusable teaching materials that you can use with course management systems
- Archiving and distributing material you would currently put on your personal website
- Storing examples of students' projects (with the students' permission)
- Showcasing students' theses (again with permission)
- Keeping track of your own publications/bibliography
- Having a persistent network identifier for your work, that never changes or breaks
- No more page charges for images. You can point to your images' persistent identifiers in your published articles

Use of Space

D Space can be used to store any type of digital medium. Examples include:

- Journal papers
- Data sets
- Electronic theses
- Reports
- Conference posters
- Videos
- Images

D Space look like

At a very high level, D Space looks like this:

- Web-based interface makes it easy for a submitter to create an archival item by depositing files. D Space was designed to handle any format from simple text documents to datasets and digital video.
- Data files, also called bit streams, are organized together into related sets. Each bit stream has a technical format and other technical information. This technical information is kept

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with bit streams to assist with preservation over time.

- An item is an "archival atom" consisting of grouped, related content and associated descriptions (metadata). An item's exposed metadata is indexed for browsing and searching. Items are organized into collections of logically-related material
- A community is the highest level of the D Space content hierarchy. They correspond to parts of the organization such as departments, labs, research centers or schools.
- D Space's modular architecture allows for creation of large, multi-disciplinary repositories that ultimately can be expanded across institutional boundaries.
- D Space is committed to going beyond reliable file preservation to offer functional preservation where files are kept accessible as technology formats, media, and paradigms evolve over time for as many types of files as possible.
- The end-user interface supports browsing and searching the archives. Once an item is located, Web-native formatted files can be displayed in a Web browser while other formats can be downloaded and opened with a suitable application program.

A brief history of D Space

The beginning - 2000

The D Space project was initiated in July 2000 as part of the HP-MIT alliance (Hewlett Packard / Massachusetts Institute of Technology). The project was given $1.8 million USD by HP over two years to build a digital archive for MIT that would handle the 10,000 articles produced by MIT authors annually.

Software releases

Releases of the D Space software have taken places as follows:

- D Space version 1.0 - 8th November 2002
- D Space version 1.1 - 8th May 2003
- D Space version 1.2 – 13th August 2004
- D Space version 1.3 – 3rd August 2005
- D Space version 1.4 – 26th July 2006
- D Space version 1.5 – 25th March

The DSpace Foundation

The D Space Foundation was formed in 2007 as a non-profit organization to provide support to the growing community of institutions that use D Space. The foundation's mission is to lead the collaborative development of open source software to enable permanent access to digital works. The D Space Foundation employs four members of staff:

1. Michele Kimpton – Executive Director (formerly director of the Internet Archive)
   - michele@dspace.org
2. Brad McLean – Technical Architect
   - brad@dspace.org
3. Valorie Hollister – Community Outreach Manager
   - val@dspace.org
4. Lauren L'Esperance – Webmaster (part time)
   - lauren@dspace.org

The aims of the Foundation

The D Space Foundation has several different core aims

- Develop and manage a strong network of service providers and training resources
- Promote D Space via a monthly newsletter, website, marketing materials etc

- Build and support an active community of developers and users
- Ensure D Space integrates using open standards
- Manage and co-ordinate the D Space platform roadmap and software releases

The community development model

Open source software

D Space is open source software. That means that you can download, use, and modify D Space for free. The software is shared under a BSD (Berkeley Software Distribution) licence.

The development model

The code for D Space is kept within a source code control system (http://dspace.svn.sourceforge.net/viewvc/dspace/). This system allows code to be added or modified over time, whilst maintaining a track of all changes and a note of why the change was made and who made it. This assists with the development of the software and ensures the quality and traceability of the code. Any past version of D Space can be downloaded from the system in an identical state as originally distributed.

Control of the source code repository is delegated to a small group of 'committers' (http://wiki.dspace.org/index.php/DspaceContributors). Only the committers have the ability to change the code and release new versions. The committers work with the wider community of D Space users to fix bugs and improve the software with new features.

Anyone who wants to is welcome to submit big fixes, new features or feature requests. The can all be done through the Source Forge administrative system (http://sourceforge.net/projects/dspace/) . Support is provided on an informal basis via email lists (http://sourceforge.net/mail/?group_id=19984). There are three lists:

1. D Space-Tech for technical support
2. D Space-General for general questions and announcements
3. D Space-Dev for discussing development issues

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Role of Libraries in e-Governance (Internet Governance)

Gayatri Rajput* & Sangeeta Amte **

Abstract

Internet governance is the development and application of shared principles, norms, and rules, decision making Procedures, and programs that shape the evolution and use of the Internet. In only a few years, the internet has revolutionized trade, health, education and indeed the very fabric of human communication and exchange. Moreover, its potential is far greater than what we have seen in the relatively short time since its creation. In managing, promoting and protecting its presence in our lives, we need to be no less creative than those who invented it. Clearly there is a need for governance, but that does not necessarily means that it has to be done in the traditional way, for something that is so very different. As well as these technical developments, governance issues are being raised by the abuses of the Internet that are emerging, such as identity and credit card theft, fraud, denial of service attacks, injection and propagation of viruses, worms and Trojan horses, invasion of privacy, imposition of censorship, and many illegal acts ranging from copyright violations to child pornography. There is much discussion of the principles, methods and means that are needed to counteract these abuses. Finally, there is also debate about the basic organizational structures of the bodies that have a role to play in various aspects of Internet Governance.

DEFINATION

The definition of Internet governance has been contested by differing groups across political and ideological lines. One of the main debates concerns the authority and participation of certain actors, such as national governments, corporate entities and civil society, to play a role in the Internet's governance.

A Working group established after a United Nations-initiated World Summit on the Information Society (WSIS) proposed the following definition of Internet governance as part of its June 2005 report:

> ***Internet governance is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programs that shape the evolution and use of the Internet.***

THE EVOLUTION OF INTERNET GOVERNANCE:

One of the fascinating aspects of the Internet during its development and early growth was its unique governance. The Internet started as a government project. In the late 1960s, the US government sponsored the development of the Defense Advanced Research Projects Agency (DARPA Net), a resilient communication facility designed to survive a nuclear attack.

By the 1980s, a wider international community was using the facilities of this network, which by this time was referred to as the Internet. In 1986, the Internet Engineering Task Force (IETF) was established. The IETF managed the further development of the Internet through a cooperative, Consensus-based, decision-making process, involving a wide variety of individuals. There was no central government, no central planning, and no grand design.

At this point, life was relatively simple. However, in 1994 the US National Science Foundation decided to involve the private sector by subcontracting the management of the Domain Name System (DNS) to Network Solutions Inc (NSI). This was not well received by the Internet Community and a "DNS War" started. This "DNS War" brought other players into the picture: the business sector, international organizations, and nation states. It ended in 1998 with the establishment of a new organization, the Internet Company for Assigned Names and Numbers (ICANN). Since 1998 and the establishment of ICANN, debate on Internet Governance has been characterized by the more intensive involvement of national governments, mainly through the UN frame work.

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Role of Libraries in e-Governance

Public libraries are called the public universities since they play a vital role as far as informal education is concerned. Libraries play the role of keeping the public informed and educating them after their formal education is over. Since keeping the public informed about the latest research and development in a free society is the pre condition of e-Governance, public libraries can be used by the government as an inter –link between the citizens and the government authorities in order to the people understand the intricacies of the e-Governance process and its value while extending the training facilities to all those who are keen to make full use of the system available instead of making them run from pillar to post.

E-Library

The choice of a definition for e-commerce has many practical and legal implications. Depending on the classification of a particular transaction as e-commerce specific rules are applied, such as those regulating the taxation and customs.

For the US government, the key element distinguishing traditional commerce from e-commerce is "the online commitment to sell goods or services." This means that any commercial deal concluded online should be considered an e-commerce transaction, even if the realisation of the deal involves physical delivery. For example, purchasing a book via Amazon.com is considered an e-commerce transaction even though the book is usually delivered via traditional mail. WTO defines e-commerce more precisely as: "the production, distribution, marketing, sale, or delivery of goods and services by electronic means."

Importance Of E – Governance in Different Aspects -

1) Infrastructure and Standardization Aspects;
2) Legal Aspects;
3) Economic Aspects;
4) Development Aspects;
5) socio-cultural Aspects

THE INFRASTRUCTURE AND STANDARDISATION ASPECTS:

The infrastructure and standardization ASPECTS includes the basic, mainly technical, issues related to the running of the Internet. The main criterion for placing an issue in this ASPECTS is its relevance to the basic functionality of the Internet. There are two groups of issues here.

The first group includes the essential issues without which the Internet and the World Wide Web could not exist.

1. The telecommunications infrastructure, through which all Internet traffic flows;

2. The technical standards and services (the infrastructure that makes the Internet work (e.g.

TCP/IP, DNS, SSL); and

3. The content and applications standards (e.g. HTML, XML).

The second group consists of issues related to safeguarding a secure and stable operation of the Internet infrastructure, including Internet security, encryption, and spam. [1]

THE LEGAL ASPECTS:

Almost every aspect of Internet Governance has a legal component, yet the shaping of a legal response to the rapid development of the Internet is still in its infancy. The two prevalent approaches to the legal aspects of the Internet are:

a) A "real law" approach, where the Internet is essentially treated no differently from previous telecommunication technologies, from smoke signals to the telephone. Though faster and more comprehensive, the Internet still involves communication over distance between individuals. Consequently, existing legal rules can be applied to the Internet.

b) A "cyber law" approach is based on the presumption that the Internet introduces new types of social relationships in cyberspace. Consequently, there is a need to formulate new "cyber laws" for cyberspace. One argument for this approach is that the sheer speed and volume of Internet-facilitated cross-border communication hinders the enforcement of existing legal rules.

Although both approaches have valid elements, the real law approach is gaining

predominance in both theoretical analysis and policy. The general thinking is that a considerable part of existing legislation can be applied to the Internet. In certain cases, however, such as trademark protection, the rules of real laws would have to be adapted in order to apply to the cyber world. Other cases, such as spam, must be regulated by newly designed rules. The closest real world analogy to spam, junk mail, is not illegal.

This discussion about legal concerns is divided into two parts: **legal mechanisms** and **legal issues.**

A) LEGAL MECHANISMS:

The following legal mechanisms have either already been applied or could be applied to

Internet Governance:

- Legislation;
- Social norms (customs);
- Self-regulation;
- Regulation through code (software solution);

THE ECONOMIC ASPECTS:

The importance of the economic aspect of Internet Governance is illustrated by the title of the document that initiated the reform of Internet Governance and established ICANN: "Framework for Global Electronic Commerce" (1997). The Framework states that "the private sector should

lead" the Internet Governance process and that the main function of this governance will be to "enforce a predictable, minimalist, consistent, and simple legal environment for e-commerce." These principles are the foundation of the ICANN-based Internet regime. Various policy and regulatory mechanisms of high importance for ecommerce are classified in other aspect.

THE DEVELOPMENT ASPECTS

Technology is never neutral. The history of human society provides many examples of technology empowering some individuals, groups, or nations, while excluding others. The Internet is no different in this respect. From the individual to the global level, a profound change has occurred in the distribution of wealth and power. The impact of ICT on the distribution of power and development has given rise to many questions

- How will ICT-accelerated changes affect the already existing divide between the North

and the South? Will ICT reduce or broaden the existing divide?

- How and when will developing nations be able to reach the ICT levels of more industrially developed countries?

The answer to these and other questions requires an analysis of the relevance of development within the context of Internet Governance. Almost every Internet Governance issue has a developmental aspect. The following issues are relevant to development

- The existence of a telecommunications infrastructure, the first precondition for overcoming the digital divide;
- the current economic model for Internet access, which places a disproportionate burden on those developing countries that have to finance access to backbones based in developed countries;
- spam, with a comparatively higher negative impact on developing countries due to their limited bandwidth and lack of capability to deal with it;
- the global regulation of IPRs, which directly affects development, because of the reduced opportunity of developing countries to access knowledge and information online.

The developmental aspect of the World Summit on the Information Society (WSIS) has been frequently repeated, beginning with the UN General Assembly Resolution on WSIS, which stressed that WSIS should be "promoting development, in particular with respect to access to and transfer of technology." The WSIS Geneva Declaration and Plan of Action highlighted development as a priority and linked it to the Millennium Resolution and its promotion of "access of all countries to information, knowledge, and communication technologies for development." With the link to the

Millennium Goals, WSIS is strongly positioned in the development context.

In the development ASPECTS the core development issues such as the digital divide and universal access, issues frequently raised in the development debate. It will be followed by an analysis of the main factors influencing the Internet and development: infrastructure, financial assistance, policy issues, and socio-cultural aspects.

SOCIO-CULTURAL ASPECTS

Networks connecting computers existed long before the Internet. What makes the Internet different is its facilitation of various forms of human communication and creativity. The major breakthroughs are linked to the ways in which the Internet was used for new modes of communication (e-mail, Web, multimedia). In this context, some authors argue that the Internet is more a social than a technological phenomenon. It supplements traditional communication as well as provides new forms of communication of its own (e.g. cyber-communities). Such occurrences have led to the development of a socio-cultural aspect to the Internet. The socio-cultural ASPECTS includes some of the most controversial issues in the whole field of Internet Governance, such as content policy and multilingualism. These issues, in particular, reflect today's most prevalent national, religious, and cultural differences.

CONCLUSION

The Internet governance structures and mechanisms work well today. Business supports the existing organizations maintaining their current roles and mandate, and the importance of private sector leadership in the technical management and development of the Internet.

The public having awareness about their rights and also have knowledge about the e-governance. If the librarian tries improving the information literacy through his / her training, the public will get more benefit. For all this the fund, technology, and also interest of the public and librarian is very important for the success of the e-governance.

The Internet is a worldwide, publicly accessible series of interconnected computer networks. Internet governance development, in the fields of public administration, business, education and training, health, employment, environment, agriculture and science within the framework of national & international e-strategies. Implement internet government strategies focusing on applications aimed at innovating and promoting transparency in public administrations and democratic processes, improving efficiency and strengthening relations in international level. Develop international initiatives and services, at all levels, adapted to the needs of citizens and business, to achieve a more efficient allocation of resources and public goods. It should Support international cooperation initiatives in the field of e-government, in order to enhance transparency, accountability and efficiency at all levels of government.

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Information and Communication Technologies; their influence on Libraries in Technical Education

R. Asok*

Abstract

Information technology has suddenly exploded into public views and seems to be everywhere in the popular media. Information technology provides the tools that enable all organizational personnel to solve increasingly complex problems and to capitalize on opportunities that contribute to the success or even the survival of the organization. Library and information professionals or expert spread over a wide geographical are routinely expect to be able to examine the status of even their most remote outpost at the push of a button. As our ability to gather, process, and distribute information grows, the demand for ever more sophisticated information processing grows even faster.

Key Words: **Information Technology, Communication Technology, IT, Library, Technical Education.**

1. Introduction

In the past three centuries each century has been dominated by a single technology. The 18th century was the era of the great mechanical systems accompanying by the industrial revolution. The 19th century was the age of steam engine. During the 20th century, the key technology was information gathering, processing, and distribution. Among other developments, we saw the installation of worldwide telephone networks, the invention of radio and television, the birth and unprecedented growth of the computer industry, and the launching of communication satellites.

Information technology has suddenly exploded into public views and seems to be everywhere in the popular media. It is like a huge wave that has been building offshore, only to become noticeable as it crests and then breaks on the beach. At the movement, we are all caught in the boiling surf of these breaking waves. It's almost impossible to avoid media stories on such topics as the information superhighway, multimedia, or the internet. These aspects, of information technology are just a few of the thousands of ways in which information technology will affect the way we work, live and play.

Information technology provides the tools, that enable all organizational personnel to solve increasingly complex problems and to capitalize on opportunities that contribute to the success or even the survival of the organization.

We are in the information age, where fortunes spring from innovative ideas and the clever use of information. Libraries are one of the areas in information technology. Libraries in technical education must compete in the challenges of information age, one that is rapidly changing, complex, global, hypercompetitive, and reader/customer focused. Libraries must rapidly react to problems and opportunities arising to combination of social, legal, economical, physical, scientific, technical and other professional factors that effect library activities.

The advantages of computer technology and other electronic systems with their unlimited potentialities for providing faster and better information services and handling library operations, the library professional has to undertake entirely new exercises to cope with the demand of new emerging technologies.

The Library professional has to modify the existing library techniques to suit the needs of new technology, and they have to develop new methods and techniques.

Library and information professionals or expert spread over a wide geographical are routinely expect to be able to examine the current status of even their most remote outpost at the push of a button. As our ability to gather, process, and distribute information grows, the demand for ever more sophisticated information processing grows even faster.

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The merging of computers and communications technologies in the libraries has had a profound influence on the way computer systems are organized the concept of the "computer centre" as a e-resource centre, e–library or digital library. In the computer centre a large number of separate but inter connected computer do the job. These systems are called computer networks.

Computer network means a collection of autonomous computers interconnected by a single technology. Two computers are said to be interconnected if they are able to exchange information. The connection needs not be necessarily via a wire, can also be wireless connection. Internet, World Wide Web is a computer network.

The internet is not a single network but a network of networks and the web is a distributed system that runs on top of the Internet. Networking is a landmark in the history of library and information science, because of which many of the information services as information revivals, information processing, information dissemination and communication are modernized. Today the networking of computers plays an important role in communication and dissemination of information, through Internet, every part of the world is connected to share the information.

Internet as a global network of networks is a world wide web(WWW) of interconnected university, business, defense, and science networks. It is made up of local area networks (LAN), Metropolitan area networks (MAN) and huge wide area networks (WAN) of the whole world. Internet has become not only a important search device of the research and development community, but also of political activist, formers, Librarians, journalists, scientists, biologists and many others.

It is intra networking that denotes interaction between networking of computers. It is an umbrella under which different networks, small and big, freely exchange information across the world. It provides access to the most diversified source of information hosted by individuals and various organizations worldwide across a vast network of computer services. Internet therefore, is a vast electronic library made up of millions of pages of information stored in hundreds of thousands of linked computers across the globe. The web has brought to the desktop, not table of contents, but also full text of journals, preprints, technical reports, patents, courseware etc.

Introduction of Internet to various disciplines led to the applications such as e-business, e–commerce, e-banking, e-services, e-learning and so on. The present study is related to its applications on engineering and technological college libraries. Information technology provides the tools that enable all organizational personnel to solve increasingly complex problems and to capitalize on opportunities that contribute to the success or even the survival of the organization. We are in the information age, where fortunes spring from innovative ideas and the clever use of information for research. Libraries in technical education are mostly competing information age, one that is rapidly changing, complex, global, hypercompetitive and readers focused. They are rapidly reacting to problems and opportunities arising from the information environment. The information environment refers to the combinations of social, legal, economic, physical, scientific, technical and political factors that affect library activities.

Reader's sophistication and expectations increases as readers become more knowledgeable about the availability and quality of information and services. They are also more knowledge about information services. These expectations translate into the need for information communication technologies in libraries because the readers are demanding even more detailed information about their concerned field and more information services. They what to know the features on information availed in Library on demand or in anticipation. The growth of the internet and the availability of enormous volumes of data in digital form have necessitated intense interest in techniques to assist the user in locating data of interest. The internet has over 800

million annexable pages. The days of going to a library and browsing the new bookshelf are being replaced by electronic searching the internet or online library catalogues.

Information

Brief about information: - A few definitions of information are

Information is the act of informing or the condition of being informed, the communication of knowledge, and knowledge derived from study, experience or instruction.

Technology is the application of science, especially to industrial or commercial objectives.

What is meant by information communication technology? Broadly the technology, which used for information management, which involves acquisition, processing, storage, retrieval and dissemination of information. Reprography, printing and publishing are all activities involved in information management. Hence, the corresponding technologies also became part of it. And also involves different modern technologies: electronic and phonic technology; computer technology including hardware and software; communication technology, in particular telecommunications; artificial intelligence technology and human- machine interface technology etc.

Harrod's Librarian's Glossary and Reference Book (1990) defines "An assemblage of data in a comprehensible form capable of communication"

According to Oxford English Dictionary "Information is knowledge communicated concerning some particular fact, subject or event" -.

Blumenthal, S C narrates in 'Management Information Systems. "Information is data recorded, organized, related or interpreted within context to convey meaning"

Communication

The word 'Communication' originated from Latin word '*Communis*' meaning 'Common'. "Communication is imparting, conveying or exchanging of ideas and knowledge whether by speech, writing or signs"–Oxford English Dictionary.

"Communication is the transfer of thoughts and message as contrasted with transportation of goods and persons" – Columbia Encyclopedia of Communication.

Communication are of two types 1. Non Verbal 2. Verbal

Methods of Non-Verbal Communications are:

- Signals – Traffic signals, Drum beats
- Signs – Traffic signs
- Symbols
- Gestures – Facial expressions, Body language

Verbal Methods Communication

- The first phase - origination of languages,
- second phase - written Communication (record and store the information)
- Cave paintings,
- clay tablets,
- ink, papyrus etc.

The third phase - the printing era began with Gutenberg and his Bible in 1456.

- The fourth phase of communication is the age of telecommunications began with Morse's telegraph and was perpetuated by Marconi's wireless system.
- In Fifth phase of communication is playing a major role in interactive Communication systems.

Information Technology

The two revolutions - in computers and communications transformed the computers synonymous to Information Technology.

The rapid developments in Information Technology brought revolutionary changes in information processing, storage, dissemination and distribution and became a key ingredient in bringing-up great changes in over all aspects of society.

Further the advent of low cost computers and easy-to-use word processing software, computer based image processing techniques paved way for 'digitized information' comprising textual to multimedia – data consisting of text, images along with digitized voice and video. Thus the information stored in libraries have taken a major shift from volume-limiting paper to limitless multimedia digital form.

Information & Communication Technology

The ease of communication along with the Internet, has brought a change to regular paradigm shift in information usage from the need to know basis – information available when and where you need it.

Digital publishing technologies and global networking have given rise to the development of a wide variety of digital libraries.

"Ten years ago we saw the convergence of the human-readable Web with increased connectivity. Now we are seeing communicating applications and more pervasive, broadband connectivity. The world is flatter because computing and communications is more pervasive of our working and learning lives: we create, share and use digital content and services".

Library information professional are playing an important role in Information communication, because of which most of the universities have introduced information communication technology at bachelor and master level course and several universities, documentations centers and other institutions are conducting regular and short term courses on information communication technology for librarian and information professionals.

Growth of Technical Education

The pace of growth of higher education has lead to the establishment of a number of engineering and technology colleges in India under the supervision of All India Council for Technical Education (AICTE) a Statutory Body of Government of India by Act of Parliament (52) in 1987. with a view to proper planning and coordinating development of Technical Education system throughout the country, promotion of qualitative improvement of Technical Education in relation to the planned quantitative growth and the regulation and proper maintenance of norms and standards in the Technical Education system and for matters connected therewith. Technical Education includes the fields of Engineering, Technology, Architect, Town Planning, Management, Hotel Management & Catering Technology, Pharmacy and Applied Arts and Crafts.

Most of the technical education institutions in India are Private entrepreneurs. They are all self-financed as then depend on students fee. State government does not provide any financial support to those colleges.

In early eighties, Government of Andhra Pradesh has given permission to private entrepreneurs to start engineering colleges affiliated to respective universities in the region, as the government is not able to meet the demand in technical education. Due to non-availability of sufficient seats, most of the students of Andhra Pradesh are migrating to neighboring states to procure technical education. Thereby the state government is losing revenue. However, the State Government has permitted to start engineering colleges in private sector. Thus, by now (2008-2009) there are about 543 engineering and technical colleges in Andhra Pradesh. Among them about 260 Engineering colleges are there in Osmania University Region.

In the ever changing technologically advancing information society, the scientific and technological education is of vital importance to any nation for its prosperity and development. A lot of information can be obtained through Information Communications technology, besides the resources held by the individual libraries of engineering and technology colleges. Further, it is a recognized fact that however over big a library may be, it cannot provide all the requisite information/documents to its user communities. In the present scenario there are some constraints/obstructions to

join the networks by the various libraries to gain access to the abundant information resources held by other libraries and information centres through the network.

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Digital Libraries: Challenges for 21st Centaury

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Abstract:

We discuss in the present paper about the digital libraries and it's future. The emerging field of digital libraries brings together participants from many existing areas of research. Currently the field lacks a clear agenda independent of these other area. It is tempting for researchers to think that the field of digital libraries is a natural outgrowth of an already known field. From a database or information retrieval perspective, digital libraries may be seen as a form of federated databases. From a hypertext perspective the field of digital libraries could seem like a particular application of hypertext technology. From a wide-area information service perspective, digital libraries could appear to be one use of the World Wide Web. From a library science perspective, digital libraries might be seen as continuing a trend toward library automation.

Key words: Digital Library, Electronic Library, Modern Library, Virtual Library

Introduction:

Digital library is newly emerging perspective in the modern world and it's future. Apart from this view there is some truth to these perspectives (as well as others) but none address the field as a whole and its research agenda. The field of digital libraries will be limited if viewed only as a sub field of prior research interests. To realize its full potential, the field must be viewed as a union of sub fields from a variety of domains combined with additional goals, and thus new research issues. Digital library research must both respect the existing tradition of our physical libraries and transcend current practice in developing a new, broader research agenda.

What are the research issues central to digital libraries? One issue might be how to digitize objects and put them on-line. A second might be how to include new forms of information that do not have temporal or tangible representation necessary for inclusion into physical libraries. Another could be how to locate materials in the new digital library. Yet another would be when to use and when to transcend the existing technologies and traditions of the physical library in its digital form. Still other issues stem from the problems of information overload created by new information technologies. This framework presents for thinking about the field of digital libraries and the research issues that are part of it and demonstrates how these issues affect digital library systems.

The recent decades have witnessed tremendous advanced in information technology and its application. The latest technologies offer cheaper price computer processing power, mass storage inexpensive access to high speed networks and retrieval devices which gives us the ability to crate, manipulate, store and transfer large quantities of formation in digital form at low cost, electronic publishing and resource sharing activities have become very easy and convenient today.

These major changes have led create and develop digital libraries. Digital libraries basically store of materials in electronic format and manipulate large collection of those materials effectively. The key technological issue is how to search and display the desired selections from and across e collections. The main focus of digital libraries should be on issues of access, cost and digitization technology and how to develop the necessary infrastructure for effective mass manipulation of the information network.

What is Digital Library?

Digital Library : This is a computer era. So, we can say that digitalization is the part of computerization. Digitalization means, there we can find the information through computer in digit form. Digital Library, a global virtual library, is a library of thousands of networked electronics libraries.

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There will be a vast population of users scattered around the globe, who are able to access, easily and conveniently, the complete contents of thousands of repositories containing texts, images, sound recordings, videos, maps, scientific and business data, as well as hypermedia combinations of these elements. The library must a network based distributed system with local servers responsible for maintaining individual collections of digital documents.

A digital library is a collection of digital objects. A collection of research papers is a typical example. When this collection gets sufficiently large, users of the digital library cannot examine each paper individually to find if its subject interests them. To address this problem, digital librarians create an interface to stand between the content of the collection and the user. In a traditional library, an example of this would be a card catalog – a collection of small cards that represent the larger objects contained in the collection. These cards are more manageable than the books that they represent. In a digital library, there are a number of ways that we can present the digital collection to the user The first thing that we need to do is to describe each object in a manageable way. This description is called metadata – data (the description) about data (the digital object). This metadata is more manageable than the digital objects that it represents. Metadata is written in a standard format. This allows the metadata to be manipulated using automated tools.

In the past, the problem had been involved in that digital libraries have been very expensive to develop. This is because people were programming them all from scratch. Lots of people and organizations have digital collections. Why should each digital library be a reinvention of the wheel? Another problem is interoperability. When many organizations have collections, users must search each one until they find what they need. What if the users could go to one place and look through lots of collections at once? For this to happen, the programmers that developed one digital library would have to talk to the programmers of the other library to get the collections to talk together. Then two digital libraries could interoperate, but what about all of the others? This is where the idea of Open Archives Initiative created a standard protocol, a way that collections provide descriptions about their contents. This is the basis for the creation of interoperable digital libraries. By standardizing the interface to the metadata, tools to work with this data can be created only one. Organizations that can't afford programmers can now have digital libraries, using these standard tools. Digital library is collection of standard tools using a standard interface and underlying protocol needed to create a digital library that is interoperable with other digital libraries.

The future of digital library history will be determined not by the technology involved, but by the ideology. If the will be determined not by the technology involved, but by the ideology. If the prevailing definition of a digital library is an organized searchable collection in digital format, then the future of digital libraries will reflect a move toward integrated service functions and collection development and management similar to the traditional library organization.

Definitions:

According to **Don Waters** defined that "Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities"

"A Digital library is a machine readable representation of materials which might be found in a university library together with organizing information intended to help users find specific information. A digital library service is an assemblage of digital computing, storage, and communicating machinery together with the software needed to reprise, emulate, and extend the services provided by conventional libraries based on paper and other material means of collecting, storing, cataloging, finding,

and disseminating information." **Edward A. Fox**

Characteristics of Digital Library :

he characteristics of digital library discussed here as noted below:

- Users are usually elsewhere than the information they want, and often wish to correlate things from several sources.
- Whoever wants to use a library must show permission to do so
- Different patrons are permitted different actions and to see different parts of each collection.
- To find specific information, each user must understand the catalog structure.
- To find specific information, each user must understand the catalog structure.
- The catalog may describe items not actually held as part of the collection at hand.
- The catalog and the collected items are used differently and not necessarily housed in the same place.
- Documents are cataloged with text descriptors and also with conventional properties such as author names.
- Documents contain cross-reference to other documents.
- Document identifiers are different from document names.
- Translations of a document may express essentially the same information, e.g.. versions of classic literature in different languages.

Components of Digital Library :

Digital library requires well-established and proven information technologies by accessing the database or servers through networks. The following components are very essentials to create digital library:

Hardware requirement:

The noted below are the requirement of digital library as follows:

- 24 hours Internet connectivity
- Computer servers
- LAN or WAN
- Scanners
- Storage media: high power hard disk
- Wi fi tower and CDs
- Digital camera
- High power Ups
- Converters
- Networks
- Multimedia interfaces

Software:

The software requirement of the DL as indicated below:

- Linux operating systems
- Digital library software like Greenstone and D-Space
- Editing software

Human ware:

The key skills are required for digital library staff as indicated below:

- Management skills
- Technical Skills
- Subject Skills

Objectives of Digital Library :

The objectives of digital library as mentioned here in:

- To collect, store, organize and access information in digital form via communication channels.
- To meet the requirements of patrons by providing better services.
- To provide personalized and retrospective services in efficient way.
- To have large digitized databases.
- To save time of library staff by avoiding routine jobs.
- To provide coherent view of all information within a library in any format.
- To serve widely dispersed communities throughout the network.
- To minimize massive storage and space problem of large libraries.
- To reduce cost involved in varies library activities.

Digital Libraries Future and Development issues :

There are many thousands of digital library projects currently underway, in all sectors of the library community. The basic concept underlying the digital library is not new. In 1945, Dr. Vannevar Bush of the U.S. Office of Scientific Research and Development discussed a device called a "memex". He envisioned this device being used by individuals as "a sort of mechanized private file and library".

Of these many terms, digital library, virtual library, hybrid library and electronic (or e-) library are most common. In the 1990s, terms such as digital library, virtual library and electronic library became widely used, but considerable uncertainty remains about what they actually mean.

A digital library is not confined to just digitize collection of rare materials. It should be built according to principles that are not necessarily the same as those employed for paper collections, and it should be valuated according to different measures that are no yet totally clear and not defined perfectly.

Digital conversion process:

Digital conversion process, which includes

- Document
- Data capture
- Data Processing
- Storage
- Indexing and Processing
- Retrieval and display

***Documents*:** In include text, bibliographic or full text, photographs, diagrams, charts, maps, colour images etc. They exist either in print or non-print form or also as single unit or collection.

***Data Capture*:** It includes manual data entry (word processing), optical character recognition (OCR) or imaging using scanners.

***Data Processing*:** The text in the convertible document may require conversion of diacritics or special characters: images may need enhancement, amplification or compression. In many cases a simple conversion from print to digital is not enough.

***Storage*:** The digitized information needs to be recorded in proper digital storage medium, which may be hard disk, magnetic tape, optical CD-ROM, or networks with workstation to access.

Indexing and Processing: Digitized document need to be processed using standards, protocols and indexing systems. Classification using library system also hold much promise. Metadata application should be a major component of the digital information processing.

***Retrieval/Display*:** It is the process through which an array of technologies for browsing, displaying, and applying packages that ultimately helps in access.

Merits of Digital Library :

The main advantage of the DL as indicated below:

- Helps in Resource sharing facilities.
- It saves the library manpower and funds.
- Helps in inter-library loan (ILL).
- Helps to reach information of their users at faster rate through on-time communication.
- It minimizes the duplication of new invention.
- Helps the Libraries to get recent publications from the publishers.
- E-publications provide aids for connectivity, audio visualization, customizability, creation and revision of documents, interactivity and rapid information retrieval.
- E-publications may help in overcoming the restrictions on the length of the paper imposed by many scholarly journals.
- The E-publications data can be maintained up-to-date so hat the buyer will be able to purchase the latest version of the publications. This enables on demand publishing and allows retrospective searching and SDI.

Conclusion:

The above paper discussed the importance of digital libraries future and

its main functions, tools and technologies used for data capture or content creation and management of publication. We also pointed out the technical and non-technical factors affecting the many technologies such as VRBA, LBC, Cryptolope and trusted system. We also enumerated the merits and demerits of digital library with high point of view. The emerging of Information Technology with high resolution capture and sophisticated engines and large storage digital contents continue to ability of conform the digital library and in the future digital libraries will be common in every Institutes, College and Universities.

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Library Automation: An Introduction

Nitin Nema*

Abstract

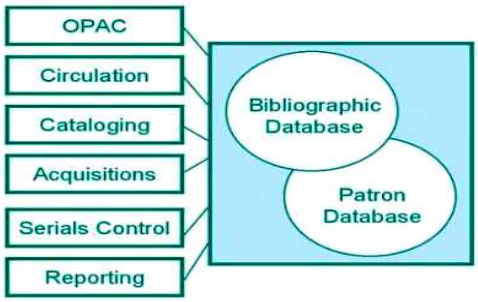
The main purpose of the library automation is to free the librarians and library staff & to allow them to contribute more meaningfully spreading of knowledge and information. Through this automation, it speeds up the library work and it saves the time of the staff and readers. Library Automation will give us altogether a new life. It facilitates the reader in searching the library book, and issuing of book quickly. Library Automation functions and streamlines the whole library functioning in favour of the reader.

Keywords: Introduction; Features; Need; Objectives; Areas; Merits; Demerits.

Introduction

The Beginnings of Library Automation (1930-1960), it could be said that library automation development began in the 1930's, when the punch card equipment was implemented for use in the library circulation and acquisitions. During the 30's and early 40's progression, the computer systems were slow, which is not surprising to be given the Depression and World War II. In 1945, Vannevar Bush envisioned an automated system that would store information, including books, personal records and articles. Bush (1945) wrote about a hypothetical 'memex' system which he described as a mechanical library that would allow a user to view stored information from several different accesses the points and look at several items simultaneously. Punched cards were invented by Hollerith in 1880 and used in tabulating the US census data. The library at the University of Texas was perhaps the first to use punched cards in 1936 for circulation control. The Library of congress used the unit record machines for the production of catalogues in 1950. Many libraries in the US followed the system for automating their activities. Library automation entered into the second period in 1960s with the beginning of computers. The notable ventures were MEDLARS, MARC, etc. Until the early 1990s, "automating the library" involved generally the same features as those in place since the advent of machine readable cataloguing record in the late 1960s. Libraries created integrated text based systems using micro/mini computers in which traditional library housekeeping operations were computerized using the library's database as the foundation. In the last decade, library automation has undergone the transformation, which reflects the changing definitions of library service in general and access to resources in particular. The introduction of global networking such as internet, cheap availability of technology and new media technologies made information more accessible.

Today's integrated library systems must not only provide modules which automate traditional library functions but also capable of connecting through the local systems into systems of other information or knowledge suppliers, databases and internet.



Library automation refers to use of computers, associated peripheral media such as magnetic tapes, disks, optical media etc. and the utilization of computer based on the products and services according to the performance of all type of library functions and operations. Computers are capable of introducing the great degree of automation in operations, functions since they are electronic, programmable, and, they are capable to control over the processes being performed. The utilization of computer and related to the techniques make the

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provision to provide the right information to right reader at the right time in a right form in a right personal way. Automation of library activities provides the services very efficiently, rapidly, effectively, adequately and economically. The modem libraries and information a center facilitates free communication because access to information has become a fundamental right of the clients.

It is the use of information, which makes it valuable. This is our and users key to make it more success, more happiness in our mission. Put this information to the work for user by automation of library functions. The role of computers and their associated peripheral media are being increasingly used in library and information services for acquisition, storage, manipulating, processing and repackaging, dissemination, transmission, an improving the quality of products and services of library and information centers.

Features of Library Automation

1. **Functional modules**: Most systems suggest cataloguing, OPAC and circulation. Some ILS also has additional modules such as acquisitions, serials management and Web PAC.
2. **Operating systems**: Some systems have proprietary OS. Most systems use Windows, and some use LINUX, an open source OS.
3. **Database systems:** Major systems normally make use of DBMS offered by vendors like Oracle and Informix. Open source systems are also available and downloadable from the Internet.
4. Library automation standards have Database structure such as MARC21; Protocol such as Z39.50 and some search features.
5. **Network Architecture**: Major systems work on client-server architecture and use TCP-IP to communicate across networks (LANs and WANs).

Need of Library Automation

Since the computer can be used in performing various activities in the library, library automation can provide as a remedy to all the existing ills of the libraries. Following are the advantages of library automation in brief as:

a) Self Survival in the New Environment: Nowadays, any library user expects to use their computer literacy in the library environment. If the library does not go for automation, it is felt that it will not be able to manage with this new generation of users. Thus, the application of computer in libraries hopes to make a positive change towards this end.

b) Speeding up the Operation: The use of the computer almost invariably speeds up the flow of work within the system. Therefore, new books, reports and other materials can be released sooner to the waiting reader. It will help in the inputting of data only for a single time. As the integrated nature of the software, it helps its subsequent use for other purposes, and reduces the duplication of the efforts or work. The searching of the information can also be performed speedily, which will save the time of the library staff and the user.

c) Accuracy and Reliability: Automation significantly increases the accuracy of files and records. Processing rules, which may be standardized and given to the computer in the form of a program and can be used to verify the rules for the new data, are being followed. If inputs are edited by a computer, errors can be deleted before the information entered into the files and processed. Computers are also more reliable in the sense of breakdown, vacation, etc. and can work longer than human beings.

d) Budget Saving: Computer equipment is cheaper. Again, in case of an automated library, the unit operating cost is less than that of a non automated library. The larger number of transactions, the lower the unit cost of automated libraries; automation will reduce the human action and save physical space and cost on the stationary items.

e) Simultaneous and Decentralization Access: In an automated environment, multiple users can access the same information sources or database. A user, without consulting the library staff, can also check whether a book is out on loan or in reserve.

f) Storage, Retrieval and Protection of Information: Libraries are a growing organization. So without the application of computer, it may be very difficult to handle the space problem of a library. Automation helps in the storing much information in reducing the space with extensive provision of the different access points. The retrieval of the information will be relevant, fast and specific. It will make easy and economy to produce and distribute the multiple copies of the cataloguing files. Thus, it will provide the greater protection against the loss of the catalogue by fire, earthquake and other natural disaster.

g) Exception Reporting and New Services: Automated system automatically provides overdue notice, follow up notice, location of order, editing of cataloguing activity, etc. The use of computer will also help us to provide new services such as CAS / SDI, special purpose catalogue, new holding announcement service, etc.

h) Automatic Statistics Generation: The use of computer in libraries helps us to generate the different kinds of statistics and reports within a minute itself. The statistics are automatically prepared by the computers and are more accurate and reliable than the manually generated one. It will improve the control over the whole system.

i) OPAC: The library catalogue forms the base of the most of the library activities such as circulation, reference service, literature search, inter-library loan, etc. The introduction of library automation brings OPAC facility to the library. The library staff also gets relief from the cumbersome jobs of writing and preparing card catalogues and their subsequent filling.

j) Stock Taking: Stock taking is an inspection to check what is in the stock in relation to what it should be. In this process, the current file is compared with the inventory file (the old list of documents possessed by the library) and the unmatched records in the inventory files are listed out. This list constitutes the untraceable or lost document. Automation helps in stock taking, which is otherwise a cumbersome business.

k) Resource Sharing: Resource sharing among libraries demands the library automation as the minimum requirement.

Objectives

1. To analyze various obstacles confronted by the authorities and staff during the process of library automation.

2. To identify the special libraries of Indore working through the manual system and automated one.

3. To appreciate the advantages of automation with respect to economy in expenditure increased use of library resources and services.

4. To interpret the importance and necessity of automation to handle the vast amount of information and to provide prompt, authentic, efficient and effective services.

5. To suggest measures to overcome the problems faced during automation in special libraries and information centers.

Areas of Library Automation:

1. Automation of library functions
2. Use of electronic resources within the library (e.g. CD-ROMs)
3. Accessing remote electronic resources (e.g. the Internet)
4. Office automation (e.g. word-processing, spreadsheets, databases, etc.)
5. Patron services (e.g. computer laboratory, multimedia center)

Merits of Library Automation

1. **Library Structure and Automation:** All libraries, large or small and regardless of type, perform the same functions of purchasing, cataloging and loan materials. Libraries are very record-intensive; i.e. they must maintain acquisition records and bibliographic data of many specific materials. They also must record multiple transactions to keep track of each patron's and material's circulation status. By inputting all library data into one central database, the record maintenance is both faster and more accurate

2. **Decentralized Access:** When libraries first began applying the automation to their structure, it was not unusual to automate only one function, such as acquisition or circulation, or to have similar but multiple databases for different functions. Advances in library automation software now allow users of each library function--whether staff or patron--to access the same database. This means that updates to the database are seamless and accurate. It is common today for library patrons to be able to not only access a library's catalog, but to perform transactions that previously required the assistance of library staff such as placing holds, renewing materials or setting up an interlibrary loan, all from their home computer.

3. Quick and Accurate Updating: Although the material's bibliographic data needs to be entered only once, every check-in and check-out of each copy must be recorded. Such work is repetitive and time-consuming; automating circulation systems is a time-saver for both staff and users. Many libraries now have free-standing check-out and check-in kiosk to allow the users for quick process of their own loans.

4. Standardization of Data: Libraries have long sought to maintain the common standards for cataloging and subject classification. With the introduction of automation, the MARC (machine readable cataloging) format has provided both national and international standards for how catalog records are communicated from one machine to another. This library automation standard, which is called "linked systems protocol", allows the library users to effortlessly access not only their own library's records but also the records of many remote library systems.

5. Increased Effectiveness: M. K. Buckland, who is the emeritus professor at the University of California School of information, points out the about two-thirds of the library's budget must be allocated for labour. If libraries apply the power of machines as much as possible to repetitive mechanical tasks, human's labour is performed faster and more easily. Thus, the library staff is free to devote more time to provide the types of library services, which have always required the human touch: reference and homework assistance, book selection, readers' services, outreach to the home-bound, story times and programming for children, young adults and adults

Demerits of Library Automation

1. **Improved Customer Service**: Library automation reduces the workload for library staff in respect of cataloging, circulation and acquisitions. This saves up time to provide the higher quality of service to library clients. The staff becomes available to answer the reference questions, helps research scholars in their research work and finds the information on request. With automation, finding the library materials such as books and reference journals becomes easier and less time consuming. Clients no longer have to wait for long period for the harassed library staff member to attend the requests.

2. **Cataloging Benefits:** With the help of the library automation, automated cataloging standards, e.g. machine readable cataloging (MARC), help the librarians to catalog items quickly. It is possible to catalog items for easy reference using vendor-supplied catalogs. With the use of scanning technology, Professional cataloging can be employed, where bar codes on books can be scanned directly into the catalog database. Automated cataloging makes the task of keeping the library materials very much easier. It also helps to identify the inventory stock quickly, when budgeting for new library materials is easy to keep.

3. **Employee Retrenchment:** There are many benefits of the library automation, but one of the major disadvantages is employee cutback. With a huge amount of the budget being spent on automation, there is generally not much funding left over for salaries and employee benefits. Further, the need for the full complement of library staff is not there anymore. Automation takes over many of the functions that people perform. E.g. clients can check out their own books by swiping the library card and then scanning the book's bar code in a special scanning machine. Clients no longer need any staff to help them to locate the library materials

due to the computers provide the information.

4. **Increased Costs:** Library automation leads to increase the building and maintenance costs. Libraries, which automate, find their power consumption due to increased heating and air conditioning needs, rising beyond the anticipated levels. The noise and heat levels generated by clients and many machines cost more than what a library is used to pay for its maintenance and power costs. Most library buildings are old structures and a good deal of remodeling work such as wiring and heating and cooling ducts. It will be needed to support the automation. Automation costs a lot of money to install and maintain, libraries often overshooting the budget and running out to fund as a result.

Conclusion

This library automation is very necessary for all libraries because it saves the time of the staff and readers. For the automation, qualified librarian and trained staff should recruit by the college. Proper and suitable IT training should be given to Library staff. It is helpful in stock verification and resource sharing. Library professionals must upgrade their skills in order to meet the growing expectations of users from libraries. Proper Software such as LIBSYS, SOUL, etc. is also needed to the library. Intranet services are also necessary for the library. Thus, the library automation makes the library work easy for both readers and the library staff.

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Implementation of Barcode Technology in the CSIR-NEERI Knowledge Resource Center: A Case Study

Rajesh Kumar Lohiya*

Abstract

This paper describes the barcode technology, objective of barcoding, and its need. The barcode structure, how barcode system works, hardware, software and stationary required for implementation in the library are also explained in detail in manual and barcode based circulation system. The paper also elaborates its applications for library and non-library functions and advantages of this technology and the experiences in implementing this technology in CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) Knowledge Resource Center.

1. Introduction

In the era of globalization and liberalization and with the advent of hi-technologies, the whole world has been condensed in a very small frame. With enormous knowledge explosion, the need to quench the thirst of information can not be over emphasized.

The use of bar-coding has been growing dramatically over the last 20 years with the adoption of Universal Product Code (UPC) as the standard for retail grocery stores. In Library and information centers since the late 70s, bar-code has become an everyday experience for most people. Barcode is fast, easy and accurate data entry method. The correct use of bar codes can minimize employee time required and increase an organization's efficiency.

The application of barcode technology in library and information centre is more efficient compared to manual data collection due to its speed, accuracy and reliability. The data input has three times the speed of manual entry. This paper seeks to give a brief description of the technology and its implementation in a research library.

2. Barcodes: Its meaning and types-

Barcode are self-contained machine-readable identification labels with information coded in a series of black and white spaces of varying widths that represent digits, and other punctuation symbols. These are readable only by scanner. There are over 40 different types of barcodes available, but mainly two are used i.e. Universal product code (UPC) and code 39. UPC can only record certain length of number and code 39 can represent an alphanumeric and even some special characters. A bar code is a series of varying width vertical lines (called bars) and spaces. Bars and spaces together are named "elements". There are different combinations of the bars and spaces which represent different characters (Fig.1).

When a bar code scanner is passed over the bar code, the light source from the scanner is absorbed by the dark bars and not reflected, but it is reflected by the light spaces. A photocell detector in the scanner receives the reflected light and converts the light into an electrical signal (Fig.2).

As the wand is passed over the bar code, the scanner creates a low electrical signal for the spaces (reflected light) and a high electrical signal for the bars (nothing is reflected); the duration of the electrical signal determines wide vs. narrow elements.

This signal can be "decoded" by the bar code reader's decoder into the characters that the bar code represents. The decoded data is then passed to the computer in a traditional data format.

3. Objectives:

The main objectives of barcoding documents in library and information centre are as follows:-

- To improve operational efficiency;

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- To achieve accuracy;
- To reduce operational cost;
- To save the time of users as well circulation counter assistant; and
- To make stock verification an easy process.

4. How Does Barcode System Work

Barcode acts in much the same way as a keyboard. In the same way that depressing key sends a signal containing a character code to the computer, reading a barcode results in the same kind of signal being sent to the processor. The barcode, in effect, acts as a unique control number which is associated with a record giving appropriate details of individual items. While scanning, the light is reflected from the barcode and the optical scanning device receives less light from the dark bars than from the spaces between them. The signals received through this process are then converted into a form, which can be recognized by the computer. The barcode scanner can be directly plugged into one of the 'slots' in the back of the system box and library management software control the process or the barcode signal can enter through the keyboard connected to the computer.[3]

5. Application of Barcode Technology in NEERI Library:

5.1. Planning:

Since its inception NEERI library was following the manual circulation system. However, with increasing applications of information technology for efficient working, it was considered to replace manual method and switch over to barcode technology for circulation work.

The project (It is an in house project without requiring additional budget for manpower and hardware/software etc.) was undertaken in two phases. In the first phase bar-coding of books was taken up. Initially barcode labels for the new books were prepared followed by labels for the old books. In the second phase, bar-coded user cards were prepared.

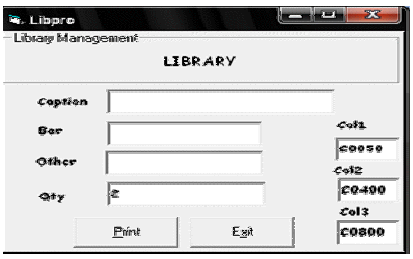
5.2. Procurement of Tools:

For application of barcode technology in library operations, the following hardware and software was procured:-

5.2.1. Personal Computer (PC): In the NEERI library one Pentium 4 for this operation was acquired.

5.2.2. Equipments (H/W &S/W) procured for Barcode Application: For application of barcode the fowling equipments are procured by the NEERI library. There are two types of barcode scanners (1) for scanning barcode from books and (2) for scanning Borrower's Cards. One is hand held scanner which is connected with keyboard and works within the circulation desk only and second is Bluetooth enabled cordless laser barcode scanner which is connected directly to the computer through USB port and works fifty feet around from connected computer. This scanner is very useful for stock verification also. These were procured for the library The Barcode Printer to print the barcode labels was also procured for library. HP Photo smart D5168 printer has been used for making library membership card. LIBPRO BARPRINT software for printing of barcode labels and LIBSYS software for bar-coded Borrower's Card were used. LIBSYS 4.0 (Rel. 5.7.2) software is used for automation of library operation.

5.2.3. Decoder to translate this information into binary (Fig.3)



Decoder Software
(Libpro)

5.2.4. Requisite Database: The membership database and database of library holdings ware a prerequisite.

6. Implementation:

6.1. Manual Circulation System

Earlier the NEERI library had manual system for circulation work and involved below mentioned tasks:

6.1.1. Registration: The registration of new borrowers required a detailed application form to be filled in by the user.

6.1.2. Issue of Borrower Tickets: After receipt of registration form at circulation desk, the information was posted in registration register and the borrowers tickets were prepared and issued to Scientist, Technical Staff, Research Associate or Fellow and Project Assistants.

6.1.3. Borrower Records: For each borrower a separate folio was maintained where in entries of books issued to him/her were maintained similarly on returning the books entry was cancelled from the register.

6.1.4. Application form for Reservation of books: For book reservation a separate Performa was give to the user.

6.1.5. Issue / Return Procedure: In manual system, whenever reader came to the library for borrowing the books, the person at the circulation desk, took his signature on the book card which was kept in the book pocket of each book. One borrower ticket was taken from the reader and the book card was attached with the borrower ticket. Later all the information was entered in borrower record. After that all the book cards along with borrower ticket were arranged alphabetically and by Accession Number of the book, in the cabinet. Similarly, while returning book, the book card was removed from borrower ticket and signature was made in return column and was put back in the book pocket pasted at the back side of the book and borrower ticket was returned to the reader.

6.1.6. Late Fee Collection: For late return of the book after due date late fee calculation was manually done.

6.1.7. Long Term Issue Record: The library is required to issue the books for long time for project work and maintain the record separately.

6.1.8. Reminders: Reminders were sent for overdue books manually by going through the records and then making entry against that book.

6.1.9. Cancellation: Cancelled records of borrowers are also maintained.

6.2. Switchover from Manual to Barcode Circulation System

It was observed that the time taken at the circulation counter could be reduced to fifty percent with the application of barcode technology and the practice of issuing multiple library tickets as per entitlements for issuing books was discontinued. In its place, a single bar-coded library card with personal details has been introduced. Personal details like name, ID number, group, division name, date of birth and validity date of the card with a color photograph and signature of the user and Head of the library are given in this card. Users are requested to carry only their bar-coded Borrower card to borrow the books from the library.

Whenever reader comes to the library for borrowing the books, his ID card number and accession number of the book is scanned with the help of scanner. The information is automatically fed into the computer and the book is issued in his name. If he/she has already got issued the maximum number of books, the system dose not allow issue of the extra book. Similar process is involved while returning. If the book is not issued in the user's name, the system immediately rejects it. When the transaction is complete and the book is issued / returned, the information gets updated simultaneously in the databases of books & users and issue or return or reissue slip and goes to users account by E-mail.

6.3. Bar-coding of Books and ID Cards

Bar-coding work was started during the summer of 2006. Almost all the books in the library are bar coded now. In house generated barcode labels for the books are used with class number, Acc. Number and first author of the book (Fig.15) for already existing books and new books arrivals from June 2006. A thermal barcode printer is used for printing barcode labels. As the new books are entered in the system the bar code labels are printed along with them and sent to the technical section for pasting. Barcode labels are pasted on the title page and spine of the book also. After registration of users at the counter, single barcode library cards are generated and issued to the borrowers. In the NEERI Library Bluetooth Wireless Laser Scanner with Charge-Cradle and Handheld Laser Scanner are used for reading the barcode

from the borrower's card and book's and code 39 pattern of barcode for documents and borrower's ID card. When the barcodes are scanned the details of both borrower and the book are displayed on the computer screen. This reduces the error percentage at the circulation counter.

7. Post-Bard coding environment and Users Feedback:

After barcoding the borrower cards and books, the circulation desk operations became efficient and error free in issuing and returning the information resources/ materials. After some months of operation of the new bar-coded library circulation system, opinion of the users was obtained. It was found that the users were happy as a lot of time was saved in issuing, returning and reissuing of books and they were not required to sign on the book card. They could know the status of a book at any time even from their desktop through OPAC.

7.1. Advantages of Barcode System

Every new technology is associated with advantages and disadvantages. In barcode technology, the advantages outweigh the problems. The application of barcode technology is made in the libraries with a view to automate the data entry process of circulation system. All the manual processes involved at circulation desk are automatically taken care of. It has got the following advantages:-

- Increased Accuracy and Reliability
- High Speed
- Time Saving
- Lower labor cost
- Better Services to Borrowers
- Faster Circulation System
- Stock Verification made easy
- Positive psychological impact on library staff as well as users

7.2. Disadvantages of Barcode System

Although bar-coding has few disadvantages, these do not may its wide scale applicability:-

- Optical line-of-sight scanning
- Limited Visibility
- Susceptible to Environmental Damage
- Prone to Human error
- Restricted Traceability

8. Other Barcode Applications

Besides circulation the technology can be effectively applied in the work of Stock Verification, Generation of Statistics and Transfer of Stock from Reference to Lending and Weeding out the Collection.

Conclusion

Each library needs the application of new technology to re-engineer its services. Implementation of automation and barcode technology is one of the best and convenient technologies to minimize the time taken at the circulation desk. This time can be utilized for other developmental tasks in the library. Its application increases productivity and eliminates human error, improves speed of operation and services.

Application of this technology has definitely improved the image of the library and has helped in developing a positive attitude of users towards the library. Its application is a step forward to satisfy the fourth law of library science "Save the Time of Users".

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Selection of Open Source Software in the Knowledge Resources Centre for Building Institutional Repository

Surendra Kumar Pal* Bharat Praveen Sonker & Amit Verma*****

Abstract

The increasing maturity of open source software and platforms offers significant potential benefits to the Knowledge Resources Centres. Open source software development, using open standards, can support interoperability between systems and enable system sharing. It can offer original solutions to problems not addressed by proprietary software and it has the potential to lead to significant savings in the budget of Knowledge Resources Centre expenditure ICT. Open source software is already in wide use within Research Community and Libraries and is particularly well established in ICT infrastructure support and management systems. Building an Institutional Repository in the Knowledge Resources Centre has many objectives like It servers as a digital archive of the total research output created by the academic community of an institute. This paper discusses Institutional Repository, Benefits of IRs, and detail explanation about Free and Open Sources Digital Repository Software, So that all Library and Information Professional can chose one Open Source Software for Building of IRs in their Knowledge Resource Centre.

Keywords: Institutional Repository, Open Source Software; Digital Library; Dspace; Eprint; Greenstone; Ganesh; Knowledge Tree.

Introduction:

In this electronic publishing age, academic institutions including universities have increasingly recognised that an institutional repository (IR) is an essential infrastructure of scholarly dissemination. An IR is a digital research archive consisting of accessible collections of scholarly work that represent the intellectual capital of an institution. It is a means for institutions to manage the digital scholarship their communities produce, maximise access to research outputs both before and after publication and also to increase the visibility and academic prestige of both the institution and authors.

Open source software is a type of computer software defined by several specific attributes that relate to its licensing and legal framework. Often it also involves a distinctive development and distribution model. At present, the primary arbiter of what constitutes open source software is the Open Source Initiative. The Initiative sets out various rights and obligations for developers, distributors and users of OSS. These rules define the basic licence conditions under which software must be released to be considered 'open source'. These licence conditions give the users of OSS the right to:

- Use the software for any purpose;
- Make copies of the software for any purpose;
- Access or modify the source code of the software for any purpose; and
- Without payment of a royalty or other fee, distribute copies of:

- the software (including distributing the software as part of an aggregate distribution containing software from several different sources); or

- a derived or modified form of the software (either in compiled form or as source code), under the same terms as the licence applying to the software.

The phenomenal growth in electronic publishing has not been matched with equal development in the management, ownership and preservation issues surrounding the intellectual output of institutions.

While many universities have established institutional repositories, there exist outside our major institutions many special libraries and research organisations that want to achieve better knowledge management and intellectual property control over the output of their organisations.

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The availability of well accepted, robust, open source applications for institutional repositories is acting as an enabler for organisations to implement open access systems to support their research output. This can include not only journal publications, but also research reports, image collections and many other assets. The example of Dspace will presented in the context of developing an enterprise model for open source in libraries and the potential this has to foster open access, and the critical issues around adoption of open source repositories, including: institutional adoption, persistent referencing, digital archiving, content ingestion and the mitigation of obsolescence. A number of open access guides to building a digital library are available, including the IFLA publication "Designing and Building Integrated Digital Library Systems – Guidelines" (Rathje, McGrory et al. 2004). The groundwork laid by institutions through their implementations provides a well-chronicled pathway to the technological implementation, including extensive documentation on OSS implementation processes.

Objective of the Study

The objective of the present study is to explain the importance of IR and identify the IR Software available in the Open Source World that can be used for choosing and building institutional repository within Knowledge Resource Centres. This Study hope to creative awareness about suitability of open source software for Institutional Repositories by enumerating their feature.

1. To explain the Importance and Benefits of Institutional Repositories.
2. To identify and enumerate the Open Source Software for Institutional Repositories;
3. To analyze the detailed features of Open Sources Software for IRs.

Methodology: Nearly Twenty two Open Sources Software for building IRs were identified after extensively browsing web for the present study. The data related to software have been collected from their respective website and other secondary sources like Open DOAR and ROAR website. The data were analysed based on select measurement scale and parameters like Name of Software, Developer, Web Address, License, System Requirements, Operating System and other feature description.

Why Open Source? for Institutional Repository

One of the synergies in modern library systems has centred on the relationship between open source systems (OSS) and open access (OA). Adoption of OSS and OA has been extraordinary over the last ten years, has progressed in parallel, and in similar timeframes. The synergies go deeper than this. First, open source can be an enabler for the adoption of open access in an institution. Equally a successful OA project can justify the ongoing improvement of the OSS implementation. Second, OSS can provide a level of certainty for an institution in their operation costs. The larger the community of adopters of open source the stronger the overall support. Third, the OSS can provide a level of security in that there is no proprietary lock-in and the code is visible (and therefore can be corrected). The functional depth of this security will be improved by the work of those adopting the open source model. Finally, open source systems can provide a cost-viable model for implementation of open access in smaller institutions. A common confusion is that open source means "free". While it may be lower cost, no information technology system operation is free. The ongoing nurturing of a system, software upgrades over time, support for customisations and enhancements, server administration, network costs are just a few of the base-line elements of managing an information system. Nevertheless, the amortisation of the software support across a wide installed base makes for an effective cost model for smaller institutions.

Institutional Repository (IR)

An Institutional repository is an online resource for the storing in digital form of academic materials, such as theses, dissertations and research articles on behalf of a university or other institutions. It is an online focus for collecting, preserving and disseminating in digital form. It is

intellectual output of a institution. For a University or institution, this would include materials such as research journals articles, and digital preservation of theses. The learning objects may include among other study materials, assignment, questions papers, audio-video materials and multimedia presentations such as interactive e-learning modules.

Main Objective of Institutional Repository:

- To provide open access to institutional research output by self archiving it.
- To create global visibility for an institution's institution scholarly research;
- To collect content in a single location of an institute;
- To store and preserve other institutional digital assets, including unpublished or otherwise easily lost grey literature.

Benefits of an Institutional Repository

The benefits of repositories to institutions and individuals are numerous and can be grouped into the following categories (Pickton & Barwick (2006)): Specific to the University, an IR offers:

1. Increasing visibility and prestige. A high profile IR may be used to support Research activities to attract high quality staff, students and funding.
2. Centralisation and storage of all types of institutional output, including unpublished literature.
3. Support for learning and teaching. Links may be made with the virtual teaching environment and library catalogues.
4. Standardisation of institutional records. The compilation of an 'Institutional CV' and individual online dossiers linked to the full text of articles becomes possible.
5. Ability to keep track of and analyse research performance.
6. Breaking down of publishers' costs and permissions barriers. alleviation of requirement to trust publishers to maintain information in the long term, without any commercial benefit for the authors.

Challenges of an IR

Despite the numerous benefits of an IR, there are implications and potential barriers to its success as summarised below (Pickton & Barwick, 2006):

- **Cost:** The initial financial cost for an open source software adopted by most institutions for creating IRs is not high but the recurrent costs, especially staff costs (e.g. time spent drafting policies, developing guidelines, publicising, training, supporting users and creating metadata, specialist IT consultancy) may be significant.
- **Difficulties in generating content:** A successful IR depends on the willingness of authors to deposit their work voluntarily and there may be local barriers and hindrances to be overcome. There are acknowledged difficulties in generating content, especially at the beginning. Unless the value of an IR can be demonstrated quickly, the organization' long-term commitment to the project may begin to wane. The best way to prove the enduring value of the IR and to ensure its long-term survival is to quickly populate it (Gibbons, 2004).
- **Sustaining support and commitment**: Far too often, it is difficult to sustain continuous support and commitment from the management and academic staff. Lynch (2003) has succinctly described this obstacle: "Stewardship is easy and inexpensive to claim; it is expensive and difficult to honour, and perhaps it will prove to be all too easy to later abdicate". There is a need for institutions to think seriously before launching institutional repository program as it may disintegrate rapidly if not properly managed.
- **Rights management issues:** Sometimes researchers are apprehensive about infringing publishers' copyright and lack adequate awareness about their own intellectual property rights. They may be uncertain about making their work available online before it is published by a traditional publisher**.**
- **Working Culture issues:** Contributing content to user-generated or 'self-service' sites is time-consuming; and time is

something which academics often lack. They may be willing to contribute content but reluctant to do it themselves. This calls for mediated deposits service for them.

- **Policy Issues:** Experiences suggest that an IR will only function to its capacity when a mandate is in place to populate it but clearly researchers can react negatively to any suggestion of compulsion. Lynch (2003) has cautioned that an IR should not become a tool for enforcing administrative control over academic work.

Role of Librarians in an IRs

Pro-activity and responsibilities relating to IRs are assumed by different people in various institutions. Largely they will be undertaken collaboratively by officers within the library in partnership principally with research and development, and information technology sections. Stimulating engagement for buy-in is crucial in the early stages of an IR when efforts are made to build a critical mass of material. Nixon (2002) rightly observed that "Reference librarians are a library eyes and ears. They understand users needs and perceptions. They know what working and what not. When they act as subject selectors, they are the library primary liaison with faculty in their subject areas and its most visible representatives. They know how to help, inform, persuade, and teach users. For an IR to succeed, it is essential that they be involved in its planning, implementation, and operation." So librarians have critical roles to play in both establishing and maintaining an IR through:

- **Advocacy.** Librarians need to know all about the IR, its principles, benefits and operational processes in order to promote it and act as 'IR evangelists' (Ashworth 2006). Librarians will need to develop advocacy programs, publicise IR through institutional news media and respond to questions by the stakeholders.
- **Building content.** Librarians can employ advocacy and marketing strategies to promote engagement with faculty members and help to generate content. They can also assist by proactively searching for content independently.
- **Collection administrators and metadata specialists:** Librarians have potential roles as collection administrators and metadata specialists. For effective implementation of IR, libraries will need to recruit or train librarians with digital collection management and provide a mediated deposit service for reluctant 'self-archivers'.
- **Training:** Librarians should be able to train staff and students to use the IR and help them prepare their digital products.

List of Some Popular Open Sources Software for IRs

Name of IR Software	**Alfresco**
Web Address	www.alfresco.com
Developer	Alfresco software, Incorporation
License	GNU License, General Public License
Operating System	MS Windows, Unix
System Requirements	MySQL data server, Apache Tomcat and java
Description: Alfresco include a content repository, an out of the box web portal content, a CISF interface that provide file system on windows and Unix like OS, a web content management system capable of virtualizing webapps and statics site via Apache Tomato. The Alfresco system is developed using Java technology.	

Name of IR Software	**ARNO**(Academic Research in the Netherlands Online)
Web Address	www.uba.uva.nl/en/projects/arno
Developer	University of Amsterdam, Tilburg University & University of Twente.
License	Free Software License
Operating System	Unix/Linux
System Requirements	Javascript, Apache, MySQL Database, Perl Language.

Description: The ARNO Project aims to develop and implement university document server to make available the scientific output of participating institutions. It is design to provide flexible tool for creating, managing, and exposing OAI-campliant archives and repositories.

Name of IR Software	**BELTS** (Basic E-Learning Tool Set)
Web Address	http://belts.sourceforge.net
Developer	The Le@rning Federation(TLF)
License	Free Software License
Operating System	Unix/Linux
System Requirements	MySQL database.
Description: The Basic E-Learning Tool Set Provides a basic set of tools for using and managing learning objects. User can search and discover content, and setup classes and lessons for other to interact with. It provide a content repository; basic activity creation, using lesson, basic group management.	

Name of IR Software	**Bepress**
Web Address	Www. Bepress.com
Developer	University of California
License	Free Software license
Operating System	Unix/Linux
System Requirements	Perl Language and MySQL database.
Description: In 1990, US Berkeley Professors Rober Cooter, Aaron Edlin, and Ben Hermalin banded together to launch a sustainable alternative: Berkeley Electronic Press, now simply called bepress. It deliver scholarly communications and publishing services for academic institutions, and share their works for maximum impact.	

Name of IR Software	**CDS-Invenio**
Web Address	http://invenio-software.org
Developer	CERN Document server
License	GNU General Public License
Operating System	Unix
System Requirements	MySQL database, and Apache/(PHP, Phython)
Description: It is a free Software suit enabling to run the digital Library or documents repository on the web. The technology offered by the software cover all aspects of digital Librarymanagement from document ingestion through classification. Invenio complies with standard such as the Open Archives InitiativeMetadataharvesting Protocol(OAL-PMH), and use MARC 21 as its underlying bibliographic format.	

Name of IR Software	**CONTENTdm**
Web Address	http://contentdm.com
Developer	OCLC
License	Free Software License
Operating System	Linux
System Requirements	XML, SGML
Description: It is a single software solution the handle the store, management and delivery of a library's digital collections to the web by providing: A window based digital collection tool where data and digital items are prepared in large batches; A server where data and image are stored and can be edited; A web-based discovery interface tool to upload the metadata of your digital content to WorldCat using the digital collection Gateway.	

Name of IR Software	**DigiTool**

Web Address	http://www.exlibris-usa.com/digitool.htm
Developer	Ex Libris
License	Free Software
Operating System	Unix
System Requirements	MySQL database
Description: DigiTool is a managing and Showing digital collections and institutional Repositories, it does the need of standard methods and tools to facilitate cataloguing, managing sharing, searching, and retrieval of digital collections. It enables academic libraries and library consortia to manage and provide access to digital resources, both those that are created for use within the institution and those that are collected and maintained by the library for the benefits of public.	

Name of IR Software	**DSpace**
Web Address	http://www.dspace.org
Developer	Massachusetts Institute of Technology(MIT) and Hewllett-Packard Labs.
License	BSD License
Operating System	Unix or Linux
System Requirements	Apache Web Server, Tomcat servlet engine and Postgre SQL, related database system
Description: DSpace is the software of choice for academic, non-profit, and commercial organizations building open digital repositories. It is free and easy to Install "Out of the Box" and Completely customizable to fit the needs of any organization, It preserve and enable easy and open access to all types of digital contents including text, images, moving image, mpegs and data sets	

Name of IR Software	**ETD-db**
Web Address	http://scholar.lib.vt.edu/ETD-db
Developer	Verginia Tech
License	Free Software License
Operating System	Unix/Linux
System Requirements	Perl Language, MySQL Language.
Description: The ETD database is a series of webpages and perls scripts that interact with a MySQL database. These scripts provide a standard interface for web user and researcher, ETD authors, graduates and Library Personnel to entered manage the filesand metadata related to a collection electronic theses and dissertations.	

Name of IR Software	**E-prints**
Web Address	http://software.eprints.org/
Developer	University of Southampton
License	GNU General Public License
Operating System	Unix
System Requirements	Apache, MySQL Database, Perl Language.
Description: The First Professional software platform for building high quality OAI-Compliant repositories, E-prints is already established as the easiest and fasted way to set up repositories of open access research literatures, scientific data, theses, reports and multimedia.	

Name of IR Software	**FEDORA** (Flesible Extensible Digitla Object Repository Architecture)
Web Address	www.fedora.info
Developer	Virginia and Cornell University
License	Mozilla Public License
Operating System	Windows or Unix
System	Sun Java Software, MySQL/ Oracle 9

Requirements	
Description: FEDORA provide a core repositories service (exposed as web-based services with well-defined APIs). In Addition, Fedora provide an array of supporting services and applications including search, OAI-PMH, messaging, Administrative clients, and more. Fedora provide RDF support and the repository software is integrated with semantic triple store technology, including the Mulgara RDF database. Fedora help ensure that digital content is durable by providing features that support digital preservation.	

Name of IR Software	**Ganesha Digital Library**
Web Address	Http;//gdl.itb.ac.id
Developer	YLTI and IDRC
License	GNU General Public License
Operating System	Window, Linux
System Requirements	Apache web server, MySQL database, Perl Language
Description: Ganesha Digital Library is a tool for managing and distributing digital collection using web-based technology. It is developed by KMRG ITB; since 2000 it has been widely sued for IndonesiaDLN network. The last version of GDL is GDL4.2. The development was supported by funding from INHERENT-DIKTI. And now, KMRG has to keep it usable and maintainable.	

Name of IR Software	**Green Stone Digital Library**
Web Address	www.greenstone.org
Developer	University of Waikato, UNESCO and the Human Info(NGO)
License	GNU General Public License
Operating System	Windows, Linux/Unix
System Requirements	Apache Web server, MySQL database, Perl Language
Description: Greenstone is a suit of software for building and distributing digital library Collections. It provide a new way of organizing information and publishing it on the Internet or CD-ROM. It is an Open sources software, issued under the GNU License.	

Name of IR Software	**Hyperwave**
Web Address	www.hyperwave.com
Developer	Hyperwave GmbH
License	Free Software License
Operating System	Unix/Linux
System Requirements	Oracle
Description: Hyperwave is leading provider of content management solution with a focus on document and knowledge management in intranet environment.	

Name of IR Software	**INFOMINE**
Web Address	http://informine.ucr.edu
Developer	INFORMINE, LOOK,MEL & Virtual Reference Library
License	AGPL (13) Free Software License
Operating System	Linux
System Requirements	MySQL database and Kerkeley DB Management Package, C++
Description: INFOMINE is a virtual library of intranet resources relevant to faculty, student and research staff at the university level. It contains useful intranet resources such as database electronic journals, electronic books, bulletin boards, mailing list, online library catalogue and many other type of information. INFOMINE is built by a groups of Librarians from different universities of USA.	

Name of IR Software	**IntraText**
Web Address	http://www.intratext.com
Developer	EulogosSpA

License	Creative Commons License
Operating System	Windows, Linux
System Requirements	Tablet PC: Use the Portrait orientation at a resolution of 786x1024.
Description: IntraText is a reading, reference and search tool,. It can be used to read a work, to browse a text as hypertext, to search for words and phrase just a single click of your pen or mouse. The Tablet PC interface allows browsing and searching without keywords.	

Name of IR Software	**Islandora**
Web Address	http://island.ca
Developer	University of Price Edward Island
License	GNU General Public License
Operating System	Windows, Linux
System Requirements	Drupal, Fedora Common Repository Software, PHP/Java/Python
Description: Iselandora is committed to utilizing open standards for data description and access, as well as high stewardship and security over time. Islandora make it possible to create, edit, discover, view, and manage repository assets.	

Name of IR Software	**Knowledge Tree**
Web Address	www.knowledgetree.com
Developer	Knowledge Tree Inc.
License	GNU General Public License
Operating System	Windows, Linux
System Requirements	PHP, Apache web server.
Description: Knowledge Tree makes use of the cloud computing platform from Amazon EC2. Knowledge Tree's feature – including workflow, document alert and version control--- are design to manage business process around documents in addition to enable file sharing among team. The service is available on subscription basis.	

Name of IR Software	**OPUS** (Online Publication Composite University of Stuttgart)
Web Address	www.opus-repository.org
Developer	University of Stuttgart
License	GNU General Public License
Operating System	Unix/Linux
System Requirements	MySQL database
Description: The Late 1990s from the data centre and the University library was developed. OPUS is open sources software for operation of Institutional repositories and as such is the publication, development, administration, research and dissemination of electronic Publication.	

Name of IR Software	**ROADS** (Resource Organisation and Discovery in Subject-based Services)
Web Address	www.uklon.ac.uk/roads/
Developer	Institute of Learn. & Res. Tech.(ILRT) UK Office of Library & Info. Networking
License	Artistic License GNU/GPL
Operating System	Unix
System Requirements	HTTPApache web server & Perl Language
Description: ROADS project was to design and implement a user-oriented resource discovery system. It investigated the creation, collection and distribution of resource descriptions, to provide a transparent means of searching for and using resources.	

Name of IR Software	**SimpleDL**
Web Address	www.simpledl.com
Developer	SimpleDL

License	GNU/GPL
Operating System	Windows, Linux
System Requirements	MySQL, Apache and PHP
Description: SimpleDl is digital collection management software that allow for the upload, description management and access of digital collections and is UTF-8 compatible. It is not limited by format and is capable of handling documents, PDFs, image videos, audio files, and data only objects. In addition to that, it can also connect content to multipage documents, scores, or books can be uploaded, and organised by chapter or page number wise.	

Name of IR Software	S**obekCM**
Web Address	http://ufdc.ufl.edu/sobekcm
Developer	University of Florida Digital Collection(UFDCs), Digital Library of Caribbean(dLOC)
License	GNU/GPL
Operating System	Windows, Unix
System Requirements	MySQL, Apache and PHP
Description: SobelCM allow users to discover online resources via semantic and full-text searches, as well as a variety of differentbrowse machine. For each digital resource in the repository there are a plethora of display options which ma be search by an appropriately authenticates use. This repository includes online metadata editing and online submission in support of Institutional repositories.	

Conclusion

In choosing a Institutional Repository Software, we need to consider what we want it to do, what we will want to be able to do with its contents in the future, how interoperable we want it to be with our current Knowledge Resources Centre, what our users want and need. The variety of choice is somewhat daunting, and the competing metadata standards and changing face of the digital library scene complicates the variety of futures that lay before us. The more metadata that can be gathered from ingested items, the more likely that we will be able to both preserve the objects appropriately, and migrate the associated metadata into forms which promote the sharing of digital objects. Balanced against this, we need to consider the limitations of what we can expect of the casual user, if creators are to enter their own metadata and upload their own objects.

What we want from our repository will be metadata-driven. Many things are important here beyond user interface and ease of upload. Support for full-text and Boolean searching, creation of communities and sub-communities for organization and browsing, modularity and extensibility, ease of implementation and low cost are all important also. But beyond these possibly temporary and changeable aspects, is the content which we will be given to preserve. That content needs to be in a form, and with associated metadata, that will be amenable for both preservation and migration, into the foreseeable future. In India most of Institution has consider DSpace to their first Choice followed by Greenstone and E-Prints.

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Impact of Information and Communication Technology in LICs: An Introduction

Mohammad Rehan*

Libraries and librarians have had to adapt to the growth of information and communications technology in recent years. Today people use the internet as a primary source of information, often relying on books as a last resort due to the issues of time and money. Rapid changes in information technologies during past three decades have drastically changed the functions and activities of information professionals in libraries.

With the invention of Information and Communication Technology, libraries now use various types of technologies to aid the services they render. Everyday new technological advances affect the way information is handled in libraries and information centers. The impacts of new technologies are felt by libraries in every aspect. Computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way that libraries access, retrieve, store, manipulate and disseminate information to users. The academic library has been from its inception an integral part of institutions of higher learning, rather than an appendix or adjunct.

The ongoing Information Technology (IT) revolution has deeply affected almost all areas of our life and all aspects of human's activity. Libraries, Information and Documentation Centers (LIBIDOCS) are no exception to the impact of Information Technology. The application of IT in different types of libraries in India has gained sufficient momentum. The IT application tools are essential for providing efficient and cost effective library and information services to the user community in the present scenario. Review of literature reveals a number of studies conducted in the application of IT in LIBIDOCS in the recent years.

Libraries and librarians will have a role to play in harnessing technological advances ... creating from them a portal — both digital and physical—through which users can ... find their way to accessible, credible, and vital knowledge

Information technology has transformed the whole world into a global village with a global economy, which is increasingly dependant on the creative management and distribution of information. Over the past decades the world has been experiencing significant changes in which the need to acquire, utilize and share knowledge has become increasingly essential. Now, in the 21st century, the age of knowledge and information is in its higher gear. This is an age when invisible knowledge and information take the role of prime movers leading all sector.

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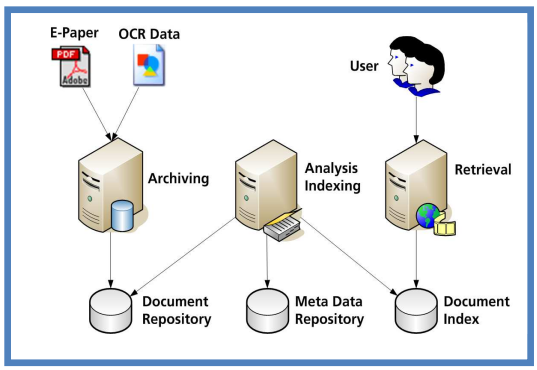
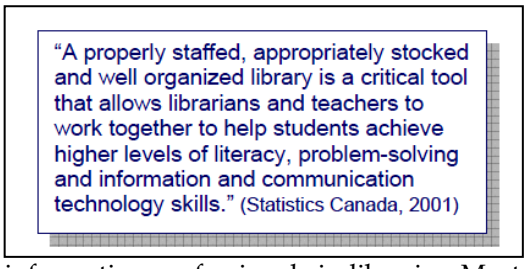
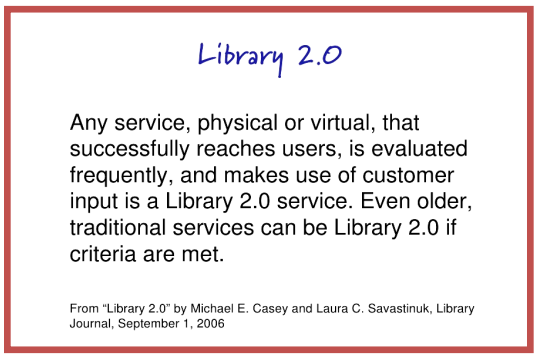


Libraries and librarians have had to adapt to the growth of information and communications technology in recent years. Today people use the internet as a primary source of information, often relying on books as a last resort due to the issues of time and money. In terms of infrastructure, libraries now devote space to public computer facilities and librarians undergo additional training in order to be well-equipped to deal with queries related to modern research techniques and online resources as well as the traditional questions related to finding and borrowing books. Library archives and records are also now computerised meaning a more efficient and effective borrowing and returns system and a faster method of locating resources and assessing availability of items. In terms of administration, running a library is now much simpler than before, thanks to the aid of computerised systems. Modern systems are also beneficial to customers who are able to reserve and renew items online as well as being able to explore the extensive library catalogue. In terms of ecological impact, the new system of computerized records saves using a considerable amount of paper, which, on a national scale could contribute significantly to helping the environment.

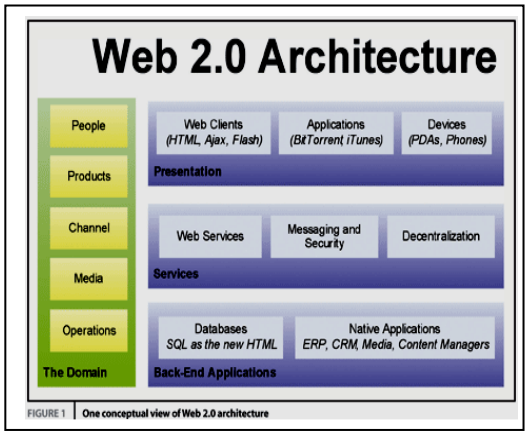
Rapid changes in information technologies during past three decades have drastically changed the functions and activities of



information professionals in libraries. Most functions in modern libraries are being performed using software packages that are now available off-the-shelf. Several libraries have their catalogues available on the Internet with a web based search interface along with links to resources either acquired through external agencies or created in-house. Most libraries are connected to the Campus network and subscribe to electronic resources to serve the information requirement of their academic community. Several libraries have taken-up small-scale digitisation projects for part of their collection. The librarians and information professionals



are required to develop skills that are required to use, develop and maintain IT-based services and products used by



today's libraries. The article deals with new information technologies, their products, services and applications in libraries. It describes web-based library services.

The evolution of technology has undoubtedly increased the variety of resources available in libraries today; it is no longer a case of going to the library to borrow a particular book for your research but rather an opportunity to explore books, journals, DVDs and websites The application of information technology in libraries results in increased operational

efficiency. The IT increases productivity of library staff. It relieves professional staff from mundane jobs that involves a lot of duplication so that they can be fruitfully used for user-oriented library services. It improves quality of services rendered by the library.

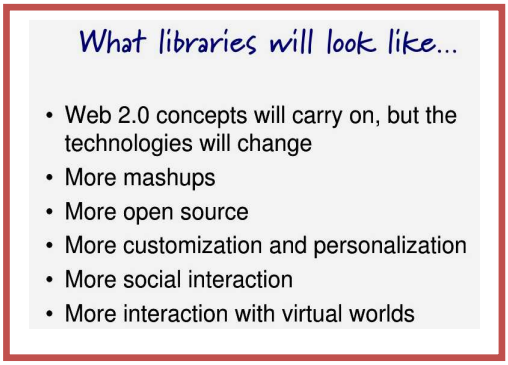
Use of information technology ensures ease of functioning, accuracy and economy in human labor with greater speed. The exponential growth of information has made manual system redundant giving way to computerized information storage and retrieval tools. Effective and efficient handling of huge quantum of information is only possible by using computers, which have the added advantage of being highly accurate and efficient that adds value to information.

Moreover, the technology also helps in rendering services that were hitherto not possible using traditional means. The new information technology facilitates improved management of physical and financial resources. The advances in technology and its availability at lower cost, has also raised expectations of users from librarians and libraries. The new information technology, on one hand, facilitate wider access to information for the library users, on other hand, it facilitates wider dissemination of information products and services generated by the library. The availability of networks facilitates resource sharing and high-speed communication with other libraries

Training of LIS Professionals and Students

The LIS professionals need to up-to-date with the New concepts for the purpose training courses introduces students/LIS professionals to key concepts in various stages of IT i.e. Web Technologies (xHTML, CSS), Web Programming (JavaScript, PHP, Python) and Data Management (XML, MySQL). Students will also learn how to use and evaluate Web Services, Social Software and Open Source Software tools. The knowledge and skills conveyed in this course will assist students in applying information, web and data technologies in various information services.

The LIS professionals and the student is required to have a set of basic computer

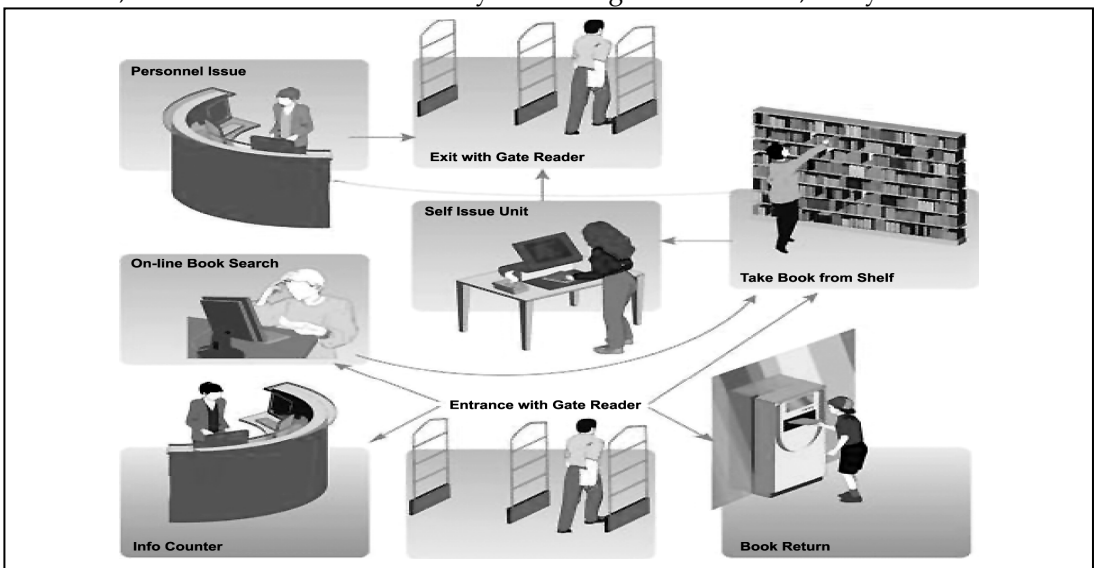


skills before taking the training course. The knowledge and skills conveyed in these courses will assist LIS professionals/ students in applying information technology in various information services, and will pave the way for further related LIS courses.

The objectives of the training courses are to have LIS professionals/ students: use common information processing and management tools. Demonstrate a comprehension of the networked information environment. Describe commonly used Internet protocols. Design and construct Web-based information resources. Identify issues related to the use of the Internet in libraries and other information organizations; apply information technology in solving practical problems in information services form a solid IT basic knowledge for further studies in LIS.

Rapid growth of information technology, particularly, the Internet and associated technologies, has opened up an entirely new medium for providing improved information services and resources for the users. As information professionals, we have the opportunity not only to play a leading role in the organization and

navigation using new tools and technologies, but also in the development and maintenance of IT-based services and resources for our users and organizations. With availability of web-based resources and services, the local collection of a library is not the only source of information for a user.



RFID TECHNOLOGY

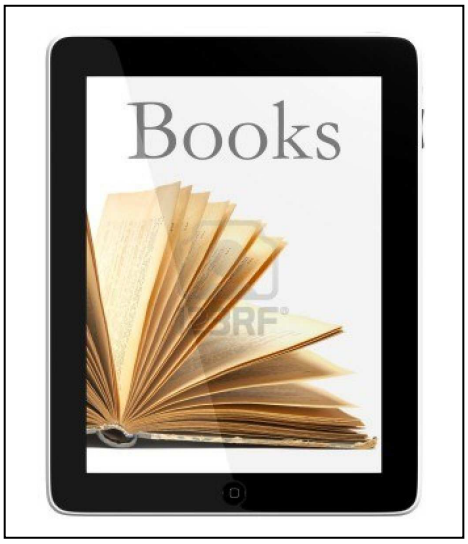
The users are interacting virtually with the library collections and resources as well as with host of resources that the librarian did not select or may not even know about them. The librarians can no longer stay behind the desk to wait for the users to come, assuming that the users would approach at the right time and for the right things. The role of library as a primary aggregator of content for its user is less and less unique. In an environment of self-service databases, electronic forms, web information and the growth of distance education, a user is likely to approach the librarian after he has already begun his search, but was not satisfied with the results.

Conclusion:

The future will require the librarians to reorient themselves, think creatively and adopt new technology to generate services and resources where their skills of structuring and organizing resources are put to its best use. With myriad of disorganized and unverified information, the web is in need of librarians who are trained in the structuring and organizing information, have the ability to locate and evaluate information resources, and have in-depth subject expertise. If the librarians are committed to sustain their roles as providers and facilitator of information in the emerging and competitive space of higher education, they would need to adopt new technology, interact with users to learn about their requirements and expectations. The librarians have to join the academic community as facilitators and collaborators, guide the students through the complex maze of print and digital resources, teaching them how to search effectively and helping them judge the quality and usefulness of the information that they encounter. The opportunities are limitless especially in the chaotic scenario of Internet.

Technology is changing the dominant form of recorded thought from print to electronic. That change, in turn, is irrevocably altering the ways in which people create, find, and process information. As a result, libraries must

evolve their philosophies, missions, and processes.



The implementation of technological advances is accomplished most effectively by determining user needs. Once these needs have been identified, librarians and administrators can design the flexible spaces, the innovative programs, and the adaptable services that will provide information in a manner appropriate for individual users. They can form collaborations and partnerships that will result in the evolution of economic and operating models, professional development, and library services. They can design digital libraries and online scholarly environments and communities that will change the nature of scientific discovery and communication.

By embracing the possibilities of the 21st century, librarians can ensure the relevance and value of the services they and their institutions provide. Yet even as the nature of the library and the work of the librarian change, the librarian will continue to play an essential role in the provision of those services. The nature of the landscape may shift, but the need for a navigator will remain.

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Open Source Software for libraries: An Overview

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Dr. (Mrs.) Jiji Cyriac****

Abstract:

Open source software technology is a growing trend in Libraries. Developments in Electronic and Communication Technology (ICT) have affected every profession in the past decades, and libraries are no exception. Libraries of all types are challenged to provide greater information access and improved levels of service, while coping with the pace of technological change and ever-increasing budget pressure. Use of software applications in libraries has become essential due to a number of factors viz. growth of electronic resources, anytime anywhere access, resource sharing, etc. However, implementing new technologies and tools into library environments may be a highly challenging task. Despite significant benefits, many libraries do not have the definite resources and infrastructure to maintain and upgrade available technologies. In addition, there is a significant demand for standard-based open systems to promote inter-operability. Open Source Software (OSS), as will be discussed in the present study, comes to the rescue of less-privileged libraries to deal with the increasing demands for use of technology. In this paper, we have discussed various open source Office Automation software (OA), Integrated Library Management Software (ILMS); software for digital library and Content Management System (CMS) for library website design. We have also discussed benefits, selection criteria and categories of some useful open source software for libraries. It discusses the advantages of open source software's to help in making decisions for adopting such a software solution for a library.

Key Words: Open Source Software, Information and Communication Technology, Institutional Repository, Digital Library, Content Management System, Library Automation, Office Automation.

1. Introduction:

The most significant transformation in ICT has been the emergence of Open Source Software. Information and Communication Technology (ICT) is the most powerful and useful technology used by mankind. It affects every activity of human life, and thus changes the total approach towards "How to Do Work".

ICT is an umbrella term that includes any communication device or application, encompassing radio, television, cellular phones, computer network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context such as ICTs in education, health care, or libraries.

Information and communication technology plays a vital role in the development of the libraries.

Due to the increasing needs of readers and changes of the environment of libraries from traditional to electronic, digital and virtual libraries has become our necessity. To achieve these goals, libraries require different type of software. Several library software's are available in the market for doing different types of work for the libraries, but they are very costly and most of the libraries can't afford them. Today many Open Source Software's are available on the web, and they are very popular as an alternative to the costly software which are available in the market. Thus many libraries are using Open Source Software's for different purposes in the libraries.

Objective of the study:

The objective of the present study is to look into the technologies and tools available in the open source world that can be used in improving the services within the libraries.

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The paper is based on the study of available Open Source Software (OSS) useful to libraries in general. It includes Integrated Library systems (ILS), Digital Library Softwares (DLS) / tools and Content Management System (CMS) as library tools useful in day-to-day functioning of the libraries.

2. Open Source Software (OSS)

Open source software is the software that provides access to the source code, meaning that users are free to see how the product is made. Additionally, users have the right to modify the product (change the code) to their liking, experiment with different versions, and give away or resell the new product with the guarantee that they must also provide their source code, and so on. Modifying the product and redistribution are the two main components of open source software.

2.1. Definition and concept of OSS:

> **"Open Source Software** (**OSS**) is a computer software that is available in source code form: the source code and certain other rights normally reserved for copyright holders are provided under an open source license that permits users to study, change, improve and at times also to distribute the software."

The strength of open source lies in its; no license costs, interoperability, easier integration and customization, compliance with open technology and data standards and freedom from vendor lock in. Studies have shown that the benefits of open source generally materialize in the medium to long term. Furthermore, because open source software is free, there is greater flexibility in selecting the level of services or support that a customer wants to pay for, if at all. Open source software is a software development and distribution where the software license guarantees certain freedoms.

Open Source Software is a software which can be used, modified and improved by anyone and can be redistributed freely. For software to be considered "free", it must allow four fundamental freedoms first identified by the Free Software Foundation.

- The freedom to run the software for any purpose.
- The freedom to study and modify the software.
- The freedom to copy the software.
- The freedom to improve the software.

The two concepts, "free" and "open source" are closely related: the Open Source Institute (OSI) is an attempt to codify "software freedom" into a copyright license. For this reason, you will also see Open Source Software referred to as Free Software or even FOSS or FLOSS. FOSS is Free, Open Source Software, FLOSS Free, Libre Open Source Software. Libre is included to make the distinction between being free of cost/charge and being free as in the freedoms listed above. Open Source Software is usually (but not necessarily) free of cost at the point of acquisition, but it is not necessarily free of cost in terms of support. The source code is completely open. We can modify, fix, add to, take away, and change any way the code we wish.

This open approach means that anyone can study and alter the source code and therefore, contribute to the development process. The freedom to distribute copies of modified versions to others. By doing this we can give the whole community a chance to benefit from our changes. Access to the source code is a precondition for this.

According to Open Source Initiative "*Open source promotes software reliability and quality by supporting independent peer review and rapid evolution of source code. To be certified as open source, the license of a program must guarantee the right to read, redistribute, modify, and use it freely.*"

2.2 Reason for adopting OSS in Libraries

The range and quality of software available for libraries is small as compared to other industrial applications. According to David Chudnov (1999) it is not surprising: *"The library community is largely made up of not-for-profit, publicly funded agencies which hardly command a major voice in today's high tech information industry. As*

such, there is not an enormous market niche for software vendors to fill our small demand for systems. Indeed the 1997 estimated library systems revenue was only $470 million, with the largest vendor earning $60 million. Because even the most successful vendors are very small relative to the Microsoft of this world (and because libraries cannot compete against industry salary levels), there are relatively few software developers available to build library applications, and therefore a relatively small community pool of software talent."

According to Eric Lease Morgan (2002), author of My Library portal software: *"In many ways I believe OSS development, as articulated by Raymond, is very similar to the principles of librarianship. First and foremost with the idea of sharing information, both camps put a premium on open access. Both camps are gift cultures and gain reputation by the amount of "stuff" they give away. What people do with the information, whether it be source code or journal articles, is up to them. Both camps hope the shared information will be used to improve our place in the world. Just as Jefferson's informed public is a necessity for democracy, OSS is necessary for the improvement of computer applications."*

2.3 Advantages of OSS:

Open Source Software can have a major impact on our entire organization. Almost everything requires open source software, be it telecommunication systems, inventory, accounting, personal productivity applications, contact management and operating systems amongst others. The following is a list of the advantages of opting for open source software:

1. Lesser hardware costs
2. No vendor lock-in
3. Integrated management
4. Simple license management
5. Abundant support
6. Scaling and consolidating
7. It promotes creative development
8. Those who can't afford proprietary software can download open source programs for free
9. Can easily modify our software to suit patron's needs and our needs
10. Little to no upgrade costs

2.4 Selection of OSS:

It suggests that only six or seven most important criteria among the following ones are actually used in the assessment.

1. **Functionality -** Does the software meet user requirements?
2. **Usability -** Is the software intuitive / easy to install / easy to configure / easy to maintain?
3. **Quality -** Is the software well designed, implemented, and tested?
4. **Security -** How secure is the software?
5. **Performance -** How does the software perform against standard benchmarks?
6. **Scalability -** Can the software cope with high-volume use?
7. **Architecture -** Is the software modular, portable, flexible, extensible, and open? Can it be integrated with other components?
8. **Support -** How many sources of support are available?
9. **Documentation -** Is there good quality documentation?
10. **Adoption -** Has the software been adopted by the community, the market, and the industry?
11. **Community -** Is the community active and lively for the software?
12. **Professionalism -** What level of professionalism does the development process and project organization exhibit?

2.5 Brief Overview of Some Important OSS for Library:

The impact of Open Source Software technology is expected to be quite noticeable in the library field. The list of Open Source Software used for libraries is as follows:

A) For Office Work:

Table 1: General Information of Office Work Softwares

Name of the	Apache Open Office	Modular Object-Oriented	Scribus

Software	(Incubating)	Dynamic Learning Environment (Moodle)	
Created & Designed by	Apache Software Foundation (ASF)		
About	Apache Open Office is the leading open-source office software suited for word processing, spread-sheets, presentations, graphics, databases and more. It is available in many languages and works on all common computers. It stores all your data in an international open standard format and can also read and write files from other common office software packages. It can be downloaded and used completely free of charge forany purpose.	Moodle is an Open Source Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It has become very popular among educators around the world as a tool for creating online dynamic web sites for their students. To work, it needs to be installed on a web server somewhere, either on one of your own computers or one at a web hosting company.	Scribus is powerful desktop publishing software that helps you create great looking documents of all kinds. It also comes with a lot of support options to help you achieve the best result. There is an enthusiastic and friendly community around Scribus that assists beginners and professionals alike through our mailing list, IRC channel, wiki, contracted support, and the bug tracker.
Categories	Education, Front-Ends, Office / Business	Education, Front-Ends, Office / Business	Education, Front-Ends, Office / Business
Intended Audience	End Users / Desktop	End Users / Desktop	End Users / Desktop
Registered	01-06-2011	01-06-2011	21-06-2003
Source Link	http://www.openoffice.org	http://moodle.org	http://www.scribus.net/canvas/Scribus

Table 2: Technical Information of Office Work Softwares

Name of the Software	Apache Open Office (Incubating)	Modular Object-Oriented Dynamic Learning Environment (Moodle)	Scribus
Operating Systems	Windows, Solaris, Linux and Macintosh operation systems	Windows, Mac and Many Flavors of Linux	Linux/Unix, Mac OS X, OS/2 Warp4/e ComStation and Windows
Languages	English and Other Languages also	English and Other Languages also	English and Other Languages also
License	The Apache License	GNU General Public License (GPL)	GNU General Public License (GPL)
User Interface	Desktop Publishing	Web Based	Desktop Publishing
Programming Language	Native Language	PHP	C++/Qt4, writing plugins and scripts in C++ and Python respectively

B) For Library Automation:

Table 3: General Information of Library Automation Softwares

Name of the Software	Created & Designed by	About	Categories	Intended Audience	Registered	Source Link
Library Manager (alpha)	Volkan YAZICI	Library Manager, as we can understand from its name, is a library management program. We can easily take control of all the books under any circumstance. This could be in a school library or in a home library.	Education, Front-Ends, Library	End Users / Desktop	08-03-2002	http://libman.sourceforge.net/loaded.html

Library Management System	Geeknet, Inc.	The Library Management System is designed to let us manage our book collection. We can even note who we have lent a book to.	Front-Ends, Library	End Users / Desktop	08-08-2006	http://libmgrsystem.sourceforge.net/
Library DB	Xata-face	Librarian DB is a simple Web based library management system that keeps track of the books in a library. It tracks book title, ISBN, categories, etc.. It permits adding / deleting / updating / searching. It is extremely flexible and extendible.	Front-Ends, MARC and Book / Library Metadata	Advanced End Users, Developers, Education, End Users/ Desktop, Non Profit Organizations and System Administrators	09-05-2007	http://apps.weblite.ca/index.php?-action=home http://apps.weblite.ca/index.php?-action=view&-table=packages&package_id=%3D2
New Gen Lib	Verus and Kesava Institute of Information and Knowl-edge Managem-ent	Integrated Library Automation and Networking Solution. Modules: Acquisitions, Cataloguing, Serials Management, Circulation, Administration, OPAC, and Reports.	Library	Education and Other Audience	21-11-2007	http://www.verussolution.biz/web/
Lib Lime KOHA	KohaCom m-unity	LibLimeKoha is the most advanced open development ILS available for download today. LibLime works closely with sponsoring libraries to enhance existing functionality and to develop new features to support the workflows of libraries. LibLlimeKoha is an ILS created by librarians for librarians. New sponsored development and bug fixes are made available as soon as sponsoring libraries have approved acceptance. LibLimeKoha is a completely Web-based ILS -- all staff, users, and system librarians access the software from their browsers.	Library	Education and Other Audience	January 2000	http://www.koha.org/
Evergreen	Georgia Public Library Service (GPLS) for Public Inform-ation Network for Electronic Services (PINES) and the Evergreen Comm-unity.	The Evergreen Project develops an open source ILS (Integrated Library System) used by approximately 800 libraries. The software, also called Evergreen, is used by libraries to provide their public catalog interface as well as to manage back-of-house operations such as circulation (checkouts and checkins), acquisition of library materials, and (particularly in the case of Evergreen) sharing resources among groups of libraries.	Library	Education and Other Audience	September 2006	http://www.open-ils.org
Open Biblio	Dave Stevens and OpenBibli o Developm ent Team	OpenBiblio is an open source integrated library management system. It is an automated library system containing OPAC, circulation, cataloging, and staff administration functionality.	Library	Education and Other Audience	2002	http://obiblio.sourceforge.net

Table 4: Technical Information of Library Automation Softwares

Name of the Software	Operating Systems	Languages	License	User Interface	Programming Language
Library Manager (alpha)	Independent	English	GNU General Public License (GPL)	Web-based	PHP
Library Management System	LINUX	English	GNU General Public License (GPL)	qt,wx Widgets	Python
Library DB	WINDOW and LINUX	English	GNU General Public License (GPL)	Web Based	PHP
New Gen Lib	WINDOW and LINUX	English and Others also	GNU General Public License (GPL)	Web Based	Java Swing
Lib Lime KOHA	LINUX	English and Others also	GNU General Public License (GPL)	Web Based	Perl
Evergreen	LINUX	English	GNU General Public License (GPL)	Web Based	Perl, C, XUl, Java Script
Open Biblio	Windows and LINUX	English	GNU General Public License (GPL)	Web Based	PHP

C) For Content Management System:

Table 5: General Information of Content management System Software's

Name of the Software	Drupal	Joomla
Created & Designed by	Community of thousands of users and developers	Community of thousands of users and developers
About	Drupal is a powerful content management system which allows you to create and maintain many different types of websites without needing to know any coding languages. It enables features such as: Content Management Systems, Blogs, Collaborative Authoring Environment, Forums, Peer-to-peer networking, Newsletters, Podcasting, Picture Galleries, file uploads and Downloads, etc.	Joomla is an award-winning content management system (CMS), which enables you to build Web sites and powerful online applications. Many aspects, including its ease-of-use and extensibility, have made Joomla the most popular Web site software available. Best of all, Joomla is an open source solution that is freely available to everyone.
Categories	Education, Front-Ends, Office/Business and Library	Education, Front-Ends, Office/Businessand Library
Intended Audience	End Users/Desktop	End Users/Desktop
Registered	2000	2005
Source Link	http://drupal.org	http://joomala.org

Table 6: Technical Information of Content management System Softwares

Name of the Software	Drupal	Joomla
Operating Systems	Unix, Linux, BSD, OS X and Windows	Linux, Windows, Macintosh and XAMPP
Languages	English	English
License	GNU General Public License (GPL)	GNU General Public License (GPL)
User Interface	Web-based	Web-based
Programming Language	PHP	PHP

D) For Digital Library:

Table 7: General Information of Digital Library Software's

Name of the Software	Greenstone3 (Alpha)	VuDL (Digital Liberty for Digital Libraries)
Created & Designed by	New Zealand Digital Library Project at the University of Waikato, developed and distributed in cooperation with UNESCO and the Human Info NGO.	Villanova University's Falvey Memorial Library

About	Greenstone 3 is a complete redesign and reimplementation of the Greenstone digital library software, which facilitates digital library creation, management, and distribution.	VuDL is a simple to use Digital Library Administration application. Some of the functionality currently provided by VuDL includes a built-in METS metadata editor, service image generation tools, an XML database repository, and an OAI server, along with record drivers for easy implementation with VuFind. With VuDL, you can store, manipulate, display and make discoverable your digital collection without having to develop any code yourself.
Categories	Digital Library,Education	Digital Library
Intended Audience	Advances End Users, Developers	Advances End Users, Developers
Registered	21-10-2005	01-05-2011
Source Link	http://www.greenstone.org/greenstone3-home	http://vudl.org

Table 8: Technical Information of Digital Library Softwares

Name of the Software	Greenstone3 (Alpha)	VuDL (Liberty for Digital Libraries)
Operating Systems	Linux, MacOS and Windows	Linux
Languages	English	English
License	GNU General Public License (GPL)	GNU General PublicLicense (GPL)
User Interface	Web-based, Java Swing	Web-based, Java Swing
Programming Language	C, C++, Java, Java Script, Perl	Java and Java Script

For Institutional Repository:

Table 9: General Information of Institutional Repository Softwares

Name of the Software	DSpace	EPrint
Created & Designed by	Massachusetts Institute of Technology (MIT), Hewlett-Packard (HP) Labs and DuraSpace	University of Southampton
About	DSpace captures data in any format- in text, video, audio and data. It distributes it over the web. It indexes the contents. So user can search and retrieve items. It also preserves digital work over a long term. DSpace provides a way to manage research materials and publications in a professionally maintained repository to give them greater visibility and accessibility over time.	EPrints Open Source Software is a platform for building repositories of research literature, scientific data, student theses, project reports, multimedia artifacts, teaching materials, scholarly collections, digitized records, exhibitions and performances. It has features such as: Archive Documents, Multimedia and Data, Multi-Language Support and OAI Compliant. An Institutional Repository is the best way to provide Open Access to research output.
Categories	Academic, Non-Profit and Commercial Organizations	Academic, Non-Profit and Commercial Organizations
Intended Audience	End Users/Desktop	End Users/Desktop
Registered	November 2002	2000 (Version 3 of the software was officially released on 24th January 2007)
Source Link	http://www.dspace.org	http://www.eprints.org

Table 10: Technical Information of Institutional Repository Softwares

Name of the Software	DSpace	EPrint
Operating Systems	Linux and Windows	Linux and Windows
Languages	English and Others	English and Others
License	BSD License	GPL License
User Interface	Web-based	Web-based
Programming Language	Java, Java Servlet API, JSP and XMLUI (aka Manakin)	Perl

3. Conclusion:

Open source software is the best alternative to the proprietary library software available in the market. OSS has the professional and working standard. They have all the modules which are required for different activities of the libraries. Before going for the costly software one must try an OSS. To learn and use OSS a librarian must have desire and technical knowledge. Training and technical support is always available for OSS through literature, internet, online community, seminar, workshop, etc. Purchased software also have their limitations too, such as, they are very costly, easy modification is not possible and always depend on the vendor. OSS training should be included in course curriculum so that the popularity and technical information of this software can be spread widely. OSS can achieve the purpose of different kinds of activities of the libraries.OSS also gives freedom to the users of the software to customize it as per his/her needs since one has access to the source code of the software.

The software's discussed above present different services. It is difficult to propose specific software as the most suitable for all cases. The study can be used as a reference guide by any organization or institute to decide which one will be ideal for creating and showcasing their digital collection. The choice usually depends on type/format of material, distribution of material, software platform and time frame etc for setting up a Digital Library.

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Ph. D. Award: **Ms. Shiva Shrivastava**, has been awarded Ph.D. degree in Library and Information Science by the M. P. Bhoj Open University, Bhopal (M.P.), on the research topic entitled "A Study of Information Seeking Behaviour Libraries of MP with Special Refeance to Bhopal" Under the supervision of Dr. B. P. Shrivastava. (Date of award 22-08-2013).

भारत में ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी में शोधकार्यों का ग्रंथमितिय अध्ययन (1980–2012) Bibliomatric Study of Indian Doctoral Research in Library and Information Science in Hindi. (1980-2012)

डॉ. रामगोपाल गर्ग* डॉ. अमित ताम्रकर एवं डॉ. रजनीश ताम्रकर*****

सार (Abstract)

प्रस्तुत आलेख भारत में ग्रंथालय एवं सूचना विज्ञान में हिन्दी भाषा में किये गये शोध कार्यों (1980–2012) का ग्रंथमितिय अध्ययन प्रस्तुत करता है। उपरोक्त वर्षों में कुल 44 शोध कार्य ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी में आयोजित किये गये है जिनका विश्लेषण प्रस्तुत आलेख में किया गया है।

प्रमुख शब्द (Keywords): ग्रथमिति, ग्रंथालय एवं सूचना विज्ञान शोध, हिन्दी भाषा में शोधकार्य, शोध उत्पादकता।

भारत में ग्रंथालय विज्ञान में शोध का आरंभ Commence of LIS Research in India

ग्रंथालय विज्ञान में शोध का इतिहास अधिक पुराना नहीं है। इसकी शुरूआत 20 वीं शताब्दी में ही हुई है। सन् 1920 के मध्य में ''स्कूल ऑफ यूनीवर्सिटी ऑफ शिकागो'' से इसका आरंभ माना जाता है।

भारत में औपचारिक रूप में संस्थागत शोध उपाधि प्रदान कराने का श्रेय डॉ. एस. आर. रंगनाथन को जाता है। उनके अथक प्रयासों व प्रशासनिक समस्याओं के बावजूद सन् 1951 में दिल्ली विश्वविद्यालय में इसका प्रारंभ कराया गया।

दिल्ली विश्वविद्यालय द्वारा ग्रंथालय विज्ञान के क्षेत्र में प्रथम शोध उपाधि डी. वी. कृष्णाराव को सन् 1957 में प्रदान की गई उनके शोध का शीर्षक था ''फेसेट एनालायसिस एण्ड डेप्थ क्लासीफिकेशन ऑफ एग्रीकल्चर'' यह शोध डॉ. एस.आर. रंगनाथन के मार्गदर्शन में पूर्ण किया गया। इसके अतिरिक्त डॉ. जे.एस.शर्मा ऐसे प्रथम व्यक्ति थे जिन्होंने ग्रंथालय विज्ञान में शोध उपाधि मिशिगन यूनीवर्सिटी (अमेरीका) से प्राप्त की जिसका शोध शीर्षक था'' महात्मा गाँधी ए डेस्क्रिप्टिव बिब्लियोग्राफी'' भारत में ग्रंथालय विज्ञान के क्षेत्रों में दूसरी पी.एच.डी. की उपाधि 1977 में पाण्डे एस.के.शर्मा को डॉ. जे. एस शर्मा के मार्गदर्शन में पंजाब विश्वविद्यालय द्वारा उनके शोध प्रबंध ''एक्सपेंसन एण्ड मोडीफिकेशन ऑफ डयूई डेसीमल क्लासीफिकेशन (18)फॉर क्लासीफार्अंग इंडोलोजिकल बुक्स विद स्पेशल रिफरेंस टु इंडियन फिलोसोफी एण्ड इंडियन रिलीजन'' पर प्रदान की गई। सन् 1997 तक 295 शोधार्थियों को पी.एच.डी. की उपाधि प्राप्त हो चुकी थी। वर्तमान में भारत में करीब 60 से अधिक विश्वविद्यालयों में ग्रंथालय एवं सूचना विज्ञान के अंतर्गत शोध कार्य हो रहे हैं और इनके शोधार्थियों की संख्या निरंतर बढ़ रही है।

शोध के अवसर एवं लाभ (Scope and Benefits of Research)

1. शोध किसी भी विषय एवं उसकी अन्य शाखों के विकास में सहायता प्रदान करता है।
2. शोध के माध्यम से नये ज्ञान का प्राकट्य होता है।
3. शोध में वे प्रायः वैज्ञानिक युक्तियों का प्रयोग किया जाता है जिससे सच का पता चलता है।
4. शोध का आयोजन प्रायः सामाजिक कल्याण को ध्यान में रखकर किया जाता है। शोध से प्राप्त नये ज्ञान व परिणाम को लोक हित में प्रयुक्त किया जाता है।
5. शोध अदृश्य को दृष्टि में तथा जटिलताओं को सरलता में बदलता है।
6. शोध के माध्यम से विभिन्न आंकड़ों में तुलना की जाती है तथा वास्तविक स्थिति का पता लगाया जाता है।
7. शोध के माध्यम से आंकड़ों के विभिन्न समूहों के मध्य संबंध एवं विविधताओं को ज्ञात किया जाता है।
8. आंकड़ो के वर्गीकरण में यह सहायक होता है।
9. शोध घटनाओं, व्यवहारों या समस्याओं का सूक्ष्म अध्ययन करता है।
10. शोध के माध्यम से नवीन विचार, तथ्यों, सिद्धान्तों एवं प्रविधियों को प्रकाश में लाया जाता है।

शोध : अर्थ एवं परिभाषा (Research: Meaning & Definition)

शोध वह क्रियाकलाप है जो प्रत्येक परिदृश्य, परिघटना, कार्य एवं कारण तथा प्रभाव से संबंधित प्रश्नों का उत्तर प्रदान करने का प्रयास करता है। शोध के माध्यम से ज्ञान इसके तत्वों, तथ्यों और सिद्धांतों का अन्वेषण, सत्यापन एवं विकास किया जाता है। अतः शोध किसी समस्या के निदान, किसी तथ्य की जानकारी, किसी विधि की जानकारी, किसी विधि को विकसित करने अथवा किसी विशेष उद्देश्य की पूर्ति हेतु किया जाता है।

जे. ऐ. लुण्डवर्ग के अनुसार– ''अवलोकित तथ्य का सुव्यवस्थित एवं वस्तुपरक वर्गीकरण, सामान्यीकरण और प्रमाणीकरण ही शोध कहलाता है।''

रोडमन एवं मोरी के अनुसार–''नवीन ज्ञान प्राप्ति के व्यवस्थित प्रयास को शोध कहते हैं।

प्रस्तुत अध्ययन के उद्देश्य (Objective of present study)

प्रस्तुत अध्ययन निम्नलिखित उद्देश्यों को ध्यान में रखकर किया गया है।

1. भारत में ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी में की गई वर्षगत शोधों की उत्पादकता ज्ञात करना।

***विश्वविद्यालय ग्रंथालयी** (प्र.), केन्द्रीय ग्रंथालय, जीवाजी विश्वविद्यालय, ग्वालियर
****ग्रंथालयाध्यक्ष,** केन्द्रीय विद्यालय संगठन
*****शोध सहायक,** राष्ट्रीय फैशन तकनीकि संस्थान, भोपाल

2. ग्रंथालय एवं सूचना विज्ञान में हिन्दी में की गए शोधों में सर्वाधिक लोकप्रिय विषय क्षेत्र का पता लगाना।

3. ग्रंथालय एवं सूचना विज्ञान में हिन्दी में की गए कुल शोधों में मार्गदर्शन करने वाले सबसे लोकप्रिय मार्गदर्शक का पता लगाना।

4. ग्रंथालय एवं सूचना विज्ञान में हिन्दी में की गई सम्पूर्ण शोध गतिविधियों में महिलाओं एवं पुरुषों की भागीदारी को दर्शाना।

5. ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी में कुल पी.एच.डी. करने वाले विश्वविद्यालयों एवं भौगोलिक क्षेत्र का पता लगाना इत्यादि।

ग्रंथमिति (Bibliometrics)

ग्रंथमिति अथवा बिब्लियोमेट्रिक्स में किसी विषय या साहित्य के विभिन्न पक्षों का संख्यात्मक या गणनात्मक अध्ययन किया जाता है। जे.एफ. कोल एवं एन.बी. ईल्स ने बिब्लियोमेट्रिक्स को सबसे पहले 1917 में एक विषय के रूप में सूचना विज्ञान में प्रयुक्त किया था। वस्तुतः एलन प्रिटचार्ड ने सर्वप्रथम बिब्लियोमेट्रिक्स पद का प्रयोग अपने आलेख ''सांख्यिकीय ग्रंथसूची अथवा ग्रंथमिति'' में किया।

पोटर के अनुसार ''ग्रंथमिति प्रतिरूपों के सभी प्रकारों लिखित सम्प्रेषण एवं रचनाकारिता का अध्ययन एवं मापन है''

ग्रंथमिति का उद्देश्य सूचना स्थानांतरण प्रक्रिया का विश्लेषण एवं उस पर नियंत्रण तथा विश्वसनीय आंकड़ो का प्रतिपादन करता है।

शोध प्रविधि (Research Methodology)

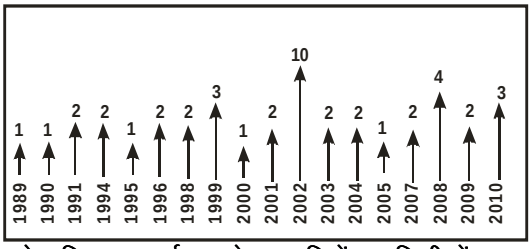
ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में सम्पूर्ण भारत में हिन्दी भाषा में सन् 1989 से 2012 तक कुल 44 पी. एच.डी. की उपाधियाँ विभिन्न विश्वविद्यालयों द्वारा प्रदान की गई हैं । प्रस्तुत शोध हेतु प्राथमिक आंकड़े विभिन्न विश्वविद्यालयों के ग्रंथालय अध्यक्षों के संपर्क से तथा विश्वविद्यालय अनुदान आयोग द्वारा प्रकाशित पत्रिका यूनीवर्सिटी न्यूज (1980–2012) के अंको के अवलोकन से प्राप्त किये गये हैं।

प्राथमिक आंकड़ों का एक कम्प्यूटराइज्ड डेटाबेस तैयार किया जिसके आधार पर अलग–अलग क्षेत्रों का वर्गीकरण करके आंकड़ो का विश्लेषण किया गया। गहन बिब्लियोग्राफिक विश्लेषण हेतु निम्न क्षेत्रों में आंकड़ो को संसाधित किया गया।

1. शोध शीर्षक विवरण
2. शोध का वर्ष
3. शोध मार्गदर्शक
4. शोध केन्द्र/विश्वविद्यालय
5. भौगोलिक क्षेत्र
6. शोधार्थी लिंग
7. ग्रंथालय का प्रकार

टेबिल तथा ग्राफ द्वारा आंकड़ों की प्रस्तुति इस प्रस्तुत अध्ययन को सरल रूप में प्रस्तुत करते है व बोधगम्य बनाते हैं।

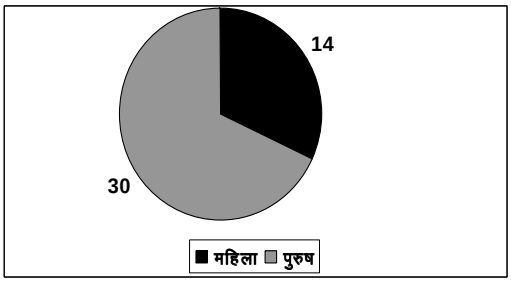
1- वर्षगत शोध उपाधि हिन्दी में (Year wise Research Degree in Hindi)



लेखाचित्र –1, वर्षगत शोध उपाधियों का हिन्दी में ब्यौरा

लेखाचित्र 1 दर्शाता है कि भारत में पिछले चार दशकों में ग्रंथालय एवं सूचना विज्ञान में सर्वाधिक 10 उपाधियाँ 2002 में विभिन्न विश्वविद्यालयों द्वारा हिन्दी में प्रदान की गई। इसके अतिरिक्त वर्ष 2008 में 4 पी.एच.डी. उपाधियाँ हिन्दी में प्रदान की गई। अध्ययन के दौरान ज्ञात होता हे कि हाल ही 2011–2012 के वर्ष में कोई भी उपर्युक्त उपाधि हिन्दी भाषा में प्रदान नहीं की गई है।

लिंग आधार पर शोध कार्य का मूल्यांकन (Gender wise assessment of Doctoral Research)



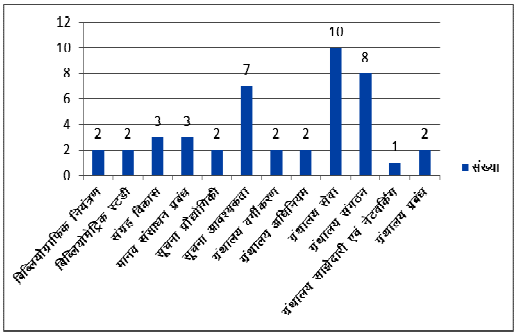
लेखाचित्र –2

भारत में सन् 2012 तक ग्रंथालय एवं सूचना विज्ञान में कुल शोध उपाधियों में से हिन्दी में प्रदान की गई शोध उपाधियों में महिलाओं व पुरुषों के अनुपात को लेखाचित्र–2 में प्रस्तुत किया गया है। उक्त लेखाचित्र स्पष्टतया दर्शाता है कि कुल 44 शोध उपाधियों में से 14 उपाधि महिलाओं द्वारा तथा 30 उपाधि पुरुषों द्वारा प्राप्त की गई है। विश्लेषण से स्पष्ट है कि महिलाओं की तुलना में पुरुष अधिक सक्रिय रूप से शोध कार्य में संलग्न है।

शोध हेतु सर्वाधिक लोकप्रिय विषय क्षेत्र (Most Favored Subject area of Research)

सारणी.1

विषय क्षेत्र	संख्या
बिब्लियोग्राफिक नियंत्रण	2
बिब्लियोमेट्रिक स्टडी	2
संग्रह विकास	3
मानव संसाधन प्रबंध	3
सूचना प्रौद्योगिकी	2
सूचना आवश्यकता	7
ग्रंथालय वर्गीकरण	2
ग्रंथालय अधिनियम	2
ग्रंथालय सेवा	10
ग्रंथालय संगठन	8
ग्रंथालय साझेदारी एवं नेटवर्किंग	1
ग्रंथालय प्रबंध	2
कुल	**44**

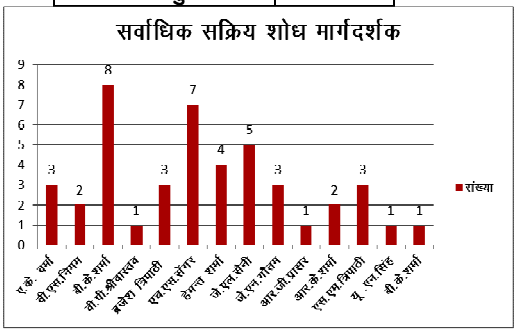


लेखाचित्र –3

सारणी.1 तथा लेखाचित्र.3 दर्शाते हैं कि ग्रंथालय एवं सूचना विज्ञान के किए विषय क्षेत्र के अंतर्गत सर्वाधिक शोध कार्य हिन्दी भाषा में हुआ है। यहां स्पष्ट है कि 'गंथालय सेवाओं' पर सर्वाधिक 10, ग्रंथालय संगठन एवं ढांचे पर कुल 8 शीर्षक, तथा सूचना आवश्यकताओं पर सर्वाधिक 7 शोध कार्य हिन्दी में हुऐ है। जबकि अन्य विषयों पर शोधकार्यों में शोधार्थियों की रूचि कम है।

सर्वाधिक सक्रिय शोध मार्गदर्शक (Most Active research guide) सारणी.2

मार्गदर्शक	संख्या
ए.के. वर्मा	3
वी.एस.निगम	2
बी.के.शर्मा	8
वी.पी.श्रीवास्तव	1
ब्रजेश त्रिपाठी	**3**
एच.एस.सेंगर	**7**
हेमन्त शर्मा	4
जे.एल.सैनी	5
जे.एन.गौतम	3
आर.जी.प्रासर	1
आर.के.शर्मा	2
एस.एम.त्रिपाठी	3
यू .एन.सिंह	1
बी.के.शर्मा	1
कुल	**44**



लेखाचित्र –4

सारणी.2 तथा लेखाचित्र.4 ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी भाषा में शोधकार्य हेतु मार्गदर्शन देने वाले मार्गदर्शकों की सक्रियता को दर्शाते हैं। अध्ययन के द्वारा प्राप्त आंकड़े दर्शाते हैं कि बी.के.शर्मा के मार्गदर्शन में सर्वाधिक 8, एच.एस. सेंगर के मार्गदर्शन में 7, जे.एल.सैनी के मार्गदर्शन में 5 तथा हेमन्त शर्मा के मार्गदर्शन में कुल 4 शोध कार्य हिन्दी भाषा में संपन्न हुए हैं जो इनकी इस क्षेत्र में सक्रियता को दर्शाते हैं।

शोध हेतु प्रमुख भौगोलिक क्षेत्र (Geographical Area For Research)

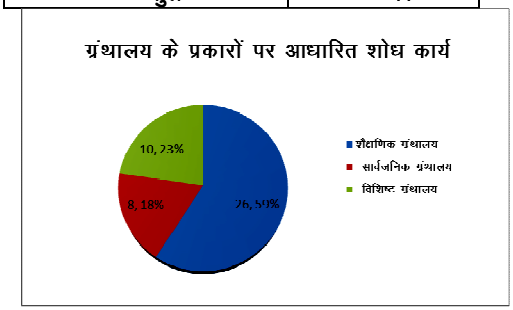
सारणी.3

भौगोलिक क्षेत्र	शोध कार्य
छत्तीसगढ़	11
उत्तरप्रदेश	07
मध्यप्रदेश	26
कुल	44

अध्ययन के द्वारा ज्ञात होता है कि हिन्दी भाषा में ग्रंथालय विज्ञान के क्षेत्र में शोध कार्य मध्य एवं उत्तरी भारत में स्थित विश्वविद्यालयों में हुआ है। सारणी.3 दर्शाती है कि मध्यप्रदेश के विश्वविद्यालयों में कुल सर्वाधिक 26, छत्तीसगढ़ में 11 तथा उत्तरप्रदेश में 07 शोध उपाधियाँ सन् 2012 तक हिन्दी में प्रदान की गई हैं।

ग्रंथालय के प्रकारों पर आधारित शोध कार्य (Research based on types of Libraries) सारणी.4

ग्रंथालय का प्रकार	शोध संख्या
शैक्षणिक ग्रंथालय	26
सार्वजनिक ग्रंथालय	08
विशिष्ट ग्रंथालय	10
कुल	**44**



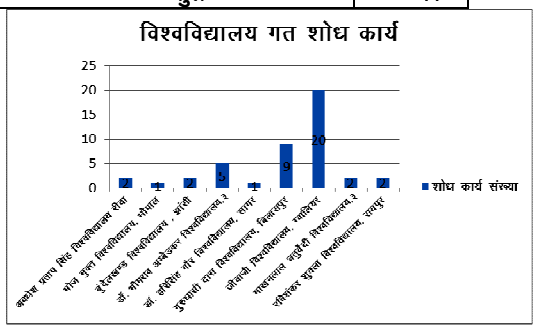
लेखाचित्र –5

ग्रंथालयों को प्रायः तीन श्रेणियों में बांटा जा सकता है शैक्षणिक, सार्वजनिक तथा विशिष्ट ग्रंथालय। सारणी.4 तथा लेखाचित्र.5 ग्रंथालय विज्ञान के क्षेत्र में हिन्दी भाषा में किये गये शोधकार्य किस प्रकार की श्रेणी के अंतर्गत किये गये हैं को दर्शाते हैं। अध्ययन के द्वारा ज्ञात होता है कि शैक्षणिक ग्रंथालयों के अंतर्गत 26 शीर्षक,विशिष्ट ग्रंथालयों के अंतर्गत 10 शीर्षक तथा सार्वजनिक ग्रंथालयों के अंतर्गत कुल 8 शीर्षकों पर शोध कार्य संपन्न हुआ है। अतः स्पष्ट है कि शोधार्थियों की पहली पसंद शैक्षणिक ग्रंथालय है अथवा इस क्षेत्र में शोध की सम्भवनायें अधिक हैं।

विश्वविद्यालय गत शोध कार्य (University wise Research Work) सारणी.5

विश्वविद्यालय का नाम	शोध संख्या
अवधेश प्रताप सिंह विश्वविद्यालय रीवा	2
भोज मुक्त विश्वविद्यालय, भोपाल	1
बुंदेलखण्ड विश्वविद्यालय , झांसी	2
डॉ. भीमराव अम्बेडकर विश्वविद्यालय,	5

आगरा	
डॉ. हरिसिंह गौर विश्वविद्यालय, सागर	1
गुरुघासी दास विश्वविद्यालय, बिलासपुर	9
जीवाजी विश्वविद्यालय, ग्वालियर	20
माखनलाल चतुर्वेदी विश्वविद्यालय, भोपाल	2
रविशंकर शुक्ला विश्वविद्यालय, रायपुर	2
कुल	**44**



लेखाचित्र –6

सारणी.5 तथा लेखाचित्र.6 स्पष्टतया चित्रित होता है कि जीवाजी विश्वविद्यालय ग्वालियर में सन् 2012 तक ग्रंथालय एवं सूचना विज्ञान के क्षेत्र के अंतर्गत हिन्दी भाषा में कुल 20 शोध उपाधियाँ प्रदानर की गई है। जबकि इसी क्रम में दूसरा स्थान गुरुघासी दास विश्वविद्यालय, बिलासपुर का है जहाँ पर इसकी संख्या 9 है। विश्लेषण से ज्ञात होता है कि अन्य विश्वविद्यालयों में उपरोक्त दोनों विश्वविद्यालयों की तुलना में हिन्दी भाषा में शोधकार्य पर कम महत्व दिया गया है।

परिणाम एवं प्राप्ति (Result & Findings)

अध्ययन के दौरान प्राप्त प्रमुख परिणाम इस प्रकार है।

1. ग्रंथालय एवं सूचनाविज्ञान के क्षेत्र में हिन्दी भाषा में सर्वाधिक शोधकार्य 2002 में पूर्ण हुआ है।
2. 14 (:) महिलाओं तथा 30 (:) पुरुषों द्वारा उपरोक्त क्षेत्र में शोध कार्य किया गया।
3. ग्रंथालय सेवाओं विषय पर कुल 10(:) तथा ग्रंथालय संगठन पर कुल 8(:) शीर्षकों के अंतर्गत शोध कार्य हुए हैं।
4. बी.के. शर्मा तथा एच.एस.सेंगर ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी में शोध हेतु सर्वाधिक सक्रिय मार्गदर्शक हैं।
5. सम्पूर्ण भारत वर्ष में ग्रंथालय एवं सूचना विज्ञान के क्षेत्र में हिन्दी भाषा में शोधकार्य सर्वाधिक मध्यप्रदेश में (:), छत्तीगढ़(:)तथा इसके पश्चात् उत्तरप्रदेश (:) में आयोजित किये गये हैं।
6. शैक्षणिक ग्रंथालयों पर सर्वाधिक 26 (:) विशिष्ट ग्रंथालयों पर 10(:) तथा सार्वजनिक ग्रंथालयों पर 8(:) हिन्दी में शोध कार्य हुए हैं।
7. हिन्दी भाषा में सर्वाधिक शोधकार्य जीवाजी विश्वविद्यालय ग्वालियर 20, तथा गुरुघासीदास विश्वविद्यालय बिलासपुर 9(:) में आयोजित किया गया है।

उपसंहार (Conclusion)

ग्रंथालय एवं सूचना विज्ञान में शोधकार्य की गति अन्य विषयों की तुलना में कम हैं विशेषकर हिन्दी भाषा में। शोधकार्य किसी भी विषय की उत्पादकता एवं विकास में सहायक होते हैं। हिन्दी भाषा भारत की राष्ट्रीय भाषा होते हुए भी इसमें शोधकार्य की गति अत्यंत धीमी है। उत्तरी एवं मध्यभारत के विश्वविद्यालयों को छोड़ कर भारत के अन्य विश्वविद्यालयों में इस पर शोध हुए ही नहीं है। अतः ग्रंथालय एवं सूचना विज्ञान की व्यवसायिकता को बढ़ाने हेतु इस क्षेत्र में विशेष प्रयासों की आवश्यकता है।

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Library Portal: A Gateway of Information

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Abstract

A Web portal can be defined as a Web site for a specific audience that aggregates an array of content and provides a variety of services including search engines, directories, news, e-mail and chat rooms. This paper describes the factors that must be considered during the design and development of an library portal. Personal interviews were conducted with librarians in order to identify the content, functions, appearance and value of an library portal. Working library portals were developed to support libraries' task performance.

Keywords: Library Portals, RSS feed Gateway of Information, Types of Portals, Evolution.

1. Introduction

In the age of the internet revolution, there is continues discussion about portals and portals strategies. The introduction of the portal concept to the Web has opened new possibilities to address. A Web portal can be defined as a Web site that aggregates an array of content and provides a variety of services including search engines, directories, news, e-mail and chat rooms. Portals have evolved to provide a customised gateway to Web information. A high level of personalisation and customisation is possible (Melzer 1999; Boye 1999). It was felt that the portal concept could be further developed to function as a sophisticated Web interface that can support the task performance (teaching and research) of academics. Libraries as well as information centres are not exceptional case from the web revolution. They developed their own portals for their users/clients rather than searching information and wasting valuable time of their users going in depths as well as vastness of the web world. The primary concept that makes the portal possible is that information services can be constructed in a way that makes them independent from a specific appearance they must have on screen. There are many names and styles for this abstraction: Web Services/XML, Open URL, APIs, widgets, and RSS feeds. These "browser less" services provide information when a program asks for it; a user doesn□t need to point and click.

2. PORTAL: Definitions

According to the dictionary (www.m-w.com) The "portal" is an entry point to a world of resources, designed to save the user time, to unite him or her with relevant resources, and to encourage maximum use of acquired resources. It may be customized to personal or role interests.

2. According to Wikipedia entry on "web portals" 05/05/10, it is arguable that the major service issue facing libraries at the moment is how to develop a network presence, how to make services available to users at the point in their research or learning activity that makes sense. The current network presence is in early stages; think for a moment of the limited utility of the flat alphabetic lists of electronic resources we present to our users

3. According to Webster's Online Dictionary "A door or gate; hence, a way of entrance or exit, especially one that is grand or imposing."
4. According to "Towards a Typology for Portals" by Paul Miller "key points would appear to be the portal's ability to offer customisation, personalisation and integration of content and services drawn from a range of sources.

3. Types of Portal: the following portal types can be distinguished:

•Vertical (VEPs or Vertical Enterprise Portals or Vortals). These portals are developed for specific interest groups, for example CNET.com (shopping mall), animalhouse.com (college), pets.com (pets), and women.com (women's issues).

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• **Horizontal or MegaPortals** for general use. Examples are Excite, Yahoo, AltaVista, AOL.com, and Infoseek.

• **Intranet or Enterprise portals**. Features that most of the vendors offer are the ability for the organizational user to customize the information they receive and the way in which it is displayed on the screen, the categorization of this information, and the integration of information from multiple databases and file formats. Many vendors also facilitate collaborative working, and provide a range of content creation and publishing options.

• **Internet gateways or libraries –** not focused on internal enterprise functions (Strauss 2000)

4. Need for the portal approach:

Web-based access to services has evolved as a thin layer over library technical infrastructures that were designed to support traditional library services; Web-savvy users who are not familiar with traditional library organization methods do not view our websites as transparent or able to meet their information-seeking requirements. The common task of finding an article provides a useful example of the special knowledge of library organization and practices that is required to navigate a library website. The process begins with selecting a resource to search. Developing an understanding of changing user demands and the basic building blocks of a new architecture will be a challenge in our current technical environment one approach is to design multi-tiered architectures that include an integration layer providing programming-level services for user-level applications such as a portal.

5. Library Portal: -

Library portals are a subset of Web portals and serve specific academic research communities. Libraries, digital libraries are important memory organizations that form a keystone for the development of the semantic Web (Miller, 2001). The library portal is one approach to organizing information resources and services in a way that supports the users needs. However, the library portal will not be the only starting point for access to the library. Library portals typically provide a gateway to an institution's resources by listing them for users and creating a direct link to the native interface of each resource, such listings are available on most library Web sites today, although many sites and library software provide only alphabetic listings. The online library software somehow had to catalogue, or at least provides a gateway to, a huge variety of materials in the hands of many different proprietors. Integrated library systems have met this challenge by converting the simple OPAC into a comprehensive, customer-driven library portal. Some of the key elements in library portal includes

• Professional resources, such as practice manuals, standards, model programs, reports, and studies

• Organsations, from the large national associations to local and special interest group

• Publications, both print and electronic

• Conferences and other events

• Library Web sites, including Web catalogs

• Communication channels, like discussion lists

• Job announcements

• The library marketplace, i.e., vendors of library-related products and services

6. Features: -

It offers search and navigation tools. portal was used to catalog the available content from the Internet, acting as a "hub" from which users could locate and link to desired content. They offer a broad array of online resources and services. Although there is no single model for what constitutes a portal, all portals offer following features

Federated search: A well-stocked library may subscribe to hundreds of online databases and other resources on behalf of its patrons, each with its own search interface and login procedure. A federated search lets the user enter the search criteria once and eliminates duplication among the results.

User profiles and contexts: The system knows who the user is and what the user generally wants, and uses that information to tailor its services, integrating with the campus s administrative information and

course management systems. e. g.: My Yahoo.

Multiple channels of content: The system can offer weather reports, RSS feeds, and the dining hall menu, in addition to more formal library databases and collections.

Customizable content and interface: The library can customize the portal by branding it with its own look and feel. Users can choose interface design and needed tools, by default. Some library portals even offer the flexibility of "skins": easily interchangeable surface designs such as those featured by MP3 software.

Communication capabilities: it also provides email, chats facility to their users.

Ease-of Use: The foremost feature to be considered is the ease-of-use, which can be determined by the effectively organized home page. The user should perceive ease-of-use with the accessibility and usability of library portal.

Search and Navigation: effective search functionality and site maps are mandatory in the homepage.

Resource Linking: it allows a library to seamlessly tie electronic resources together.

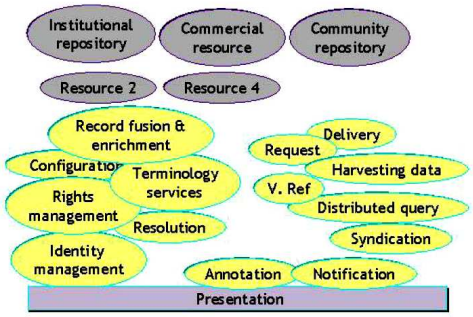
Personalization: Each individual user or a community and/or group of users can have settings for each of the portal functions that they use.

User Authentication: User authentication also known as patrons' authentication determines whether patrons are eligible for service by checking patrons against a library database.

Interactive Services: Library portal should facilitate knowledge sharing online by providing collaborative space for interactive tools. Library portal should facilitate web based information literacy programs.

7. Services of Library portal – an architectural approach:

I now want to turn to the question of what types of services are being provided through portals, and some scalability and architectural issues that are beginning to emerge based on experiences to date.



Distributed query or 'metasearch: This is a central component of library portal offerings. Typically, a broker will search across several target databases. There are a variety of approaches: Z39.50, custom query techniques.

Harvesting: A more recent approach looks at bringing metadata together by harvesting – a program, a broker, collects metadata from several sites. This metadata can then be made available for searching.

Syndication: I use this term to refer to the increasingly common use of RSS. RSS (a contested acronym, here expanded as Really Simple Syndication) is an XML-based format for sharing content between web applications; RSS is being used by many people to share alerts, updates or other structured lists of current information.

Request: A portal application may allow a document or other resource to be requested, through circulation, ILL or other application.

Deliver: It may allow receipt of a document or other resource.

Configuration: configuration as a summary label for an especially interesting set of issues.

Personalization: Many services have personalization components, typically local to the system itself. They may be based on historic use or stated preferences, as suggested above.

Reference: There is considerable recent interest in virtual reference – the mortal in the portal – where access is provided to a local or distributed human reference resource.

Annotation: This is a user-oriented application, were users or groups of users might be able to add sharable or local annotations to a resource.

Notification: Again, this is a user-oriented service which provides alerts about some matter of interest, about, for example, new or changed resources. Syndication would be one means of providing this service.

Terminology service: Such services are not widely deployed but we may expect them to become more common, whether offered directly to a user, or provided in the background interacting with a programmatic user

Carrying out search: carried search has been integrated with a particular search service, they could also be externally provided.

Resolution: A resolution service will typically take an identifier and return data about the resource identified. In the last couple of years a particular type of resolution service, based on the OpenURL.

Result enrichment and fusion: A cross searching application will often merge results from different sources, sometimes deduplicating them.

Rights management: Particular terms and conditions will be associated with resources. Increasingly, libraries have to manage multiple licenses.

Identity management: This is another complex area. A major application area for portals is to provide single sign-on, so that a user is not repeatedly challenged as they move between services. It is also understand with figure.

8. Benefits:

This is true micro-publishing; a system where individuals and groups can reach out to influence, inform, debate, campaign or just stay in touch. Essentially Blogs are easy to use, requiring no knowledge of HTML or configuration of systems. Commonly they offer searching, indexing, categorization tools, and track back / share back mechanisms, whereby content on a given topic can be aggregated and tracked. Some possible uses of Blogs in an academic environment are: Personal knowledge management, Class/cohort Web site, Posting student work for viewing/comment by peers, Personal journal with viewing/comment by teacher/tutor, Publication of tutor essays, links or commentary to seed discussion, Community forum, e.g. Crooked Timber, „Citizen reporting and e-Portfolio. The online library software somehow had to catalogue, or at least provides a gateway to, a huge variety of materials in the hands of many different proprietors. Integrated library systems have met this challenge by converting the simple OPAC into a comprehensive, customer-driven library portal.

- Library staff is becoming computer savvy due to portal environment
- Current updates on portals keep the library staff well aware
- Keen to adapt to even faster changing technological environments
- maintain the desire to work independently and co-operate constructively
- develop and maintain good relations with faculty as well as students (entire users group)
- develop and maintain user focus
- maintain a high degree of curiosity
- maintain healthy scepticism of technology
- develop new skills, transit to a lifelong learning framework

9. Role of Librarian in portals environment:

As educators who organize and evaluate information resources, academic librarians bring unique perspectives and skills to the development of portals in their colleges and universities to campus portal planning and implementation, they bring their expertise with content, their knowledge of copyright, their commitment to customer service, and their experience in creating customized web-based information delivery systems.

9.1 Content Management

Academic librarians provide credible content that has been selected for a specific learning community. Their library's homepages and collections have what every web site wants: brand and content. Libraries have the brand name of the academic institution they serve and content that has been customized to meet the needs of their users. To students who may have difficulty determining what is valuable and what is useless on the web. Increasingly the content of libraries is in digital form and is composed of databases. These databases are made available both on and off campus

through licenses arranged through the library.

9.2 Copyright Issue

Librarian's knowledge of current copyright policy is being called upon now more than ever in setting up electronic reserves and online information for learning portals created using blackboard and other web-based course management systems. Faculty and students may assume that if educational material is on the web, no copyright restrictions apply. However, this is true only if the copyright for the work has expired, its author has allowed the work to go into the public domain, or the work was authored by the federal government. Since there is a mix of works in the public domain and under copyright on the internet and some works under copyright are posted without authorization, it is not always clear which are in the public domain. Librarians provide guidance in determining which web-based materials are under copyright and seek permission for use of these works with the Copyright Clearance Center and other agencies. Librarians inform faculty about the fair use guidelines.

9.3 Customer Service Issue

As libraries make more digital resources available on the Web, research is increasingly conducted outside of the physical library. However, remote users want interactive assistance from a qualified human being and not just a help button to click on. Librarians have developed a number of ways to extend person-to-person reference service in a digital environment that are applicable in supporting portal use on campus. Digital Reference Services (DRS) offer quality service at any time to users outside the library. DRS refer to all internet-based, human-mediated information services, including those based in library settings and other types of organizations. Such services range from e-mail reference which libraries have offered for years, to online reference chat which many librarians are now implementing.

List of Most Trusted Library Portals with their URLs in Indian Context

National Library	Govt. of India	www.nationallibrary.gov.in
Raja Ram Mohan Library Foundation	Govt. of India	www.indiagov.in/official-web
Jayakar Library Portal	University of Pune	www.lib.unipune.ac.in/portal/portal.html
Central Reference Library Portal	University of Delhi	www.crl.du.ac.in
Vidyanidhi Portal	University of Mysore	www.vidyanidhi.org.in
Goa library Portal	University of Goa	www.library.unigoa.ac.in
AIISH	Mysore	www.aiish.ac.in

10. Conclusion

Information is considered as product. It is saleable, and there is a constant market for it. Like all other products, to be saleable, information has to be what the customer want and in a form that they can easily use. It is also self-regenerating i.e. having given/sold it the giver/seller and the recipient both retains it, and this process can on forever. In the age of information technology information seekers do not wish to spend their most of time in searching information, information generators (authors, associations, publishers, government, institutes, researchers etc) want to do marketing of their products/intellectual properties, libraries, information centres, data warehouses keen to provide access and marketing (awareness) of their resources for their users/clients/stakeholder. For all above aspects, the portal is like a boon for an individual or community of group. Educational portals have capacities to aware their users from their resources. Government portals deal with communities/public, Enterprise portals concern with consumers and business personnel. Basic concept behind the portal technology to save the time of information seekers while searching their require information.

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Electronic Resource Use in Libraries and Information Centers

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Abstract

The advent of new technology has made the libraries to add new things to its collection. The more prominent among them, is the electronic resources. The advent of e-resources and Information and Communication Technology (ICT) has played a pivotal role in transforming the traditional libraries into e-libraries. This is resulted in the proliferation of e-publishing which provides information in an e-form. The e-journals has occupied a major share in e-publishing and they are becoming the fast and preferred format for information dissemination, especially in academic and special libraries and information centers. The present study intended to describe a brief outline regarding various e-resources its features and challenges, and discussed the role of librarians in electronic environment.

Keywords: e-Resources, e-Journal, e-Book, Role of Librarian

Introduction

In present scenario libraries are facing various difficulties regarding to make available to their users the full range of information in print form they require. At the same time electronic information product and services are appearing with increasing rate. Users find them attractive and use them more frequently as print sources. With the advent of new technology the role of library and information professionals in collecting, organizing and disseminating resources are changed. Electronic resources have opened a new king of avenue in library sciences character and behavior. With the tremendous growth of internet e-resources, it has accessed to an overwhelming range of information sources available at the click of mouse. To making virtual library, librarians have opportunity to provide e-learners in the necessary direction. A virtual library can link e-resources like electronic book collection, e-research file etc. Now the libraries are becoming the electronic information centre with the collection of e-resources easily accessible through internet. E-resources are accessible from open access journal, open access archives, few websites and institutional repository or consortia.

e-Resource such as e-books, e-journals, online database etc. on internet delivers information of data in text forms, image collection, other multimedia products, numerical, graphical or time based study. Electronic publishing leads a new era of communications and information sharing. It creates opportunities for users as well as authors and publishers. Many of the electronic books or electronic publishers web site freely permit and encourage to readers to provide feedback on works, often directly to the author rather to the publisher. Nevertheless users may establish their own accounts, charge services to credit cards or to pay by prearranged method, and have requested material delivered directly to them by fax, e- mail, etc. Today, all kinds of libraries are spending larger and larger shares of their budgets to adopt or to access electronic resources form publishers or vendors. This is due to the fact that e-resources have enabled libraries to improve services in a variety of ways. Most e-resources are equipped with powerful search and retrieval tools that allow users to perform literature searches more effectively and efficiently.

Since most relevant e-resources are now available through the www and users can have desktop access to them 24 hours. Many resources are readily available in the 21st century to use. Leading publishers such as Elsevier, Blackwell, Wiley Taylor & Francis, Springer, etc. are producing e-journals and e-books. UGC-INFONET and INDEST Consortium are two major initiatives that have come to the rescue of academic libraries so that they can cater to the needs of academia depending upon them[1]

e-Resources, Internet databases, electronic products, virtual libraries, clickable collections, e-Libraries, Internet resources continue to be the rose with sweetest fragrance in any public library collection. E-Resources are part of what we refer to as the "Invisible Web". The Invisible Web is the information accessible to us through

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the internet, but not freely available to everyone on the World Wide Web, and not appearing on search engines like Google. The Invisible Web contains password-protected Web content available only to authorized users known as members or subscribers[2].

e-journal

Electronic journal is a serial, produced, published and distributed in electronic media. Generally they are full text delivery systems and differ from conventional bibliographic databases online. All the activities of publishing from the initial stages of paper submission to publishing and distribution including accessing is performed using electronic media[6] The journals available in electronic format. A remote access electronic serial is a continuing resource that is accessed via computer networks it provides easy access, keyword search ability, and accessibility just at publication time. Independent of space and time access, interactivity and customization etc. There are different types of e-journals full text, electronic version of print, electronic only and non-full text.

Electronic journals, also known as *e journals*, *e-journals*, and *electronic serials*, are scholarly journals or intellectual magazines that can be accessed via electronic transmission. In practice, this means that they are usually published on the Web. They are a specialized form of electronic document: they have the purpose of providing material for academic research and study, and they are formatted approximately like journal articles in traditional printed[3]

Types of e-Journals

- **Online e-Journals**

Journals those are available on a pay-as-you-go or cost- per-access basis via online host like BRS and Diolog. They are not considered as a part of libraries collection and users are really allowed for access due to the high cost. The standard serials reference publications, Ulrich's International Periodicals Directory and EBSCO's the serials Directory, provide separate listings of serials available on online and on CD-ROM.

- **CD-ROM e-Journals**

ADONIS is a full text CD-ROM application over 800 biomedical journals with images as appear as in the original journals. Three major CD-ROM publishers viz. the Institute of Scientific Information's, UMI and Silver platter have recently announced to provide additional online access to their data either through direct connection or via internet.

- **Full Text**

These are e-journals where complete articles are available rather that just summaries or abstracts. Usually whole of the journal is available on online.

- **Electronic version of print**

Journals are available both in print and electronic version. Some time the electronic version appears before the printed journals is available in the market.

- **Electronic only**

These are journals which are available only on electronic form. The publishers of the electronic journals allow access to the full text of the articles or restrict to some sections of the journal.

- **Non-Full Text**

These are e-journals where the whole journal cannot be accessed. Only the abstract is available for access.

Advantages of e-Journal

E-journals offer a number of advantages:

- Available as soon (or even before) the print version is published vio Internet
- Round the clock access (24×7× 365)
- E-publishing may be 70-90 % less costly then paper.
- Subjects can be searched across a range of titles.
- Economy in maintenance (replacement, wear & tear)
- Faster an online exchange of ideas by e-mail.
- Able to make hyperlinks, both internally and to other publications.
- Allow to readers to comment on articles that appear in a journal.
- The content can be reproduced, forwarded, modified and leading to possible problems with copyright protection and preserving authenticity.
- Articles need not be limited in length by considerations of printing.
- Shelf –space savings to libraries.

Disadvantages of e-journal

- E-journals and articles are not physically present in the library.

- Difficulty in reading on computer screen.
- Often not included indexing and abstracting services.
- Publishers change their day to day terms and conditions.
- Web sites changes their URLs or frequently disappear altogether.
- Search engines ignore PDF files, which are the format that a large proportion of e-journals use. Particularly those which are direct copies of print versions.

e-BOOK

An electronic book (variously, e-book, e book, digital book, or even e-edition) is a book-length publication in digital form, consisting of text, images, or both, and produced on, published through, and readable on computers or other electronic devices[4]. Sometimes the equivalent of a conventional printed book, e-books can also be born digital. The *Oxford Dictionary of English* defines the e-book as "an electronic version of a printed book," but e-books can and do exist without any printed equivalent. E-books are usually read on dedicated e-book readers or general purpose computer tablets. Personal computers and many mobile phones (most smart phones) can also be used to read e-books[4]

e-Database

Electronic databases are the most important and highly used electronic media among the library professionals for information retrieval purposes. They are of two types: off-line systems and on-line systems. In off-line systems, the information is stored in mainly DVD-ROMs whereas in on-line systems the information is stored in the main frame to be distributed and made available at the local computers through networks like internet. Search engines provide the facility for research E-Database. Different types of library prepared off lines database for providing services about information and books as OPAC.

e-Report

e-Reports are considered as important resource by the scientists and research scholars, as these contain reposts in e-form. These reports are scanned and converted mostly in PDF format and are hosted and archived in the server in a classified form preferably subject wise.

e-Clipping

e-Clippings allow the retrospective search and comprehensive analysis of news items. The news items are archived in such a way that it can be accessed by date, duration and news source.

Features of e-Resources

e-Resources have various features listed below:

- Accessibility: Round the clock access (24x7x365)
- Availability: E-journals are accessible at anytime from anywhere. It never gets out of print or misplaced from the shelves.
- Fast Communication: E-journals are considered as a fast mode of communication channel compared to print version as it does not require process of printing and postal services. No time leg in publication and access.
- Linking: linking of internal as well as external web pages or digital objects.
- Saves storage space
- Multiple access: Various users can access the same document from there desktop.
- Research productivity: The research output of the institutions increased due to online databases and full text resources. It save time of the users in access of resources.

Challenges of e-resources

In the age of information explosion, the academic librarians are facing challenges in handling e-resources and as well as satisfying the need to the users in their day to day teaching and research. The Librarians have more responsibilities and duties towards their users in providing quick and timely information. The expectations of the users are also increasing day by day with the availability of e-resources. In the electronic information environment, new techniques are also available in handling of information. With the help of e-resources, the concept of consortia and resource sharing is also possible. Information seeking behavior of the users are also affected because of the paucity of time they all are quite used and depend upon the e-resources. For the effective and efficient use of e-resources, training for the library staff and users is required from time to time.

e –Resources have various Challenges some important listed below[5]:

- Initial high cost for infrastructure and installation.
- Need special equipment to access.
- Hardware and software compatibility.
- Copyright issue.
- Uncertainty of permanent access.
- Training and user education required
- Plagiarism
- Formats and
- Security.

Role of librarians in electronic environment

The librarian will continue to play role of information provider to users in the electronic environment. Often people raise the question that how librarians are involved or related to the E- learning? Role of libraries in learning itself is established and beyond question; it hence follows that the supportive role, in an enhanced form, is also applicable in E-learning systems. In fact, in the present online and distributed, versatile, student centric learning environment, librarians have greater roles to play. Librarians have a long history in providing services like, online literature search, deployment of multi-institutional, authenticated networks which allow access to digital journal articles and other electronic resources required by instructors and students to facilitate coursework and research assignments. It is reflected in the background of librarianship and knowledge in selection of relevant materials, building library collection, managing the library resources, planning and implementation of end user services, copyright clearance, community and extended services.

Librarians can also contribute by taking initiatives for organizing learning related information in areas such as accreditation planning and strategic goal setting, development of student learning outcomes, design of course management systems, assessment of student learning, and promotion of teaching-effectiveness programs.

Here the idea is, librarians play greater role in eLearning by applying their expertise in knowledge organization and management, user information needs study and planning and delivering information services. In response to significant role of library and information professionals in eLearning, we may observe the positions like, learning object librarian, eLearning content manager and eLearning information service officer, and so on[6].

Conclusion

In this electronic Era, limitations imposed by print documents on the library systems were in some extent resolved with the help of electronic recourses. e-Resources are gradually being added to the collection of the library with more and more demand coming from the user community due to easily accessible anywhere at any time. It is the time for librarians to develop the skills to manage the e-resources in proper way and make them available in the scientific way. Initiatives taken by INFLIBNET under UGC-Infonet is worth commendable, which is making an efforts to provide internet connectivity to the universities under NKN project of MHRD and providing the consortia based accessibility. It is expected that in the coming days e-resources will change the dissemination process in a large extent to construct an enlightening and beautiful world.

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